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THE ETHICS OF HEALTH PROMOTION AND THE PSYCHOLOGY OF MORALITY

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1. ETHICS OF HEALTH PROMOTION

Ethics involve the "moral reasoning about what we should do", and it is traditionally divided into (Carter et al 2012) [1] [2] [3]:

- Meta-ethics - fundamental questions, like "what is good?" (appendix A);
- Normative ethics - rules and practices for evaluation of ideas and behaviours;
- Practical ethics (appendix B) [4].

Health promotion (HP) ethics is a form of the latter - ie: "moral deliberation about health promotion and its practice" (Carter et al 2012) [5] [6].

Faden and Shebaya (2016) outlined four characteristics of HP/public health that involve ethical implications:

i) Public health is a public or collective good - ie: the focus is on the community, the public, and populations rather than on individuals;

ii) The focus is upon prevention;

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[1] In terms of the distinction between morality and ethics, Gino and Shalvi (2015) offered this: "ethics is a more individual assessment of values as relatively good or bad, while morality is a community assessment of what is good, right, or just for all" (pvi).

[2] Moral arguments can be deductively valid (ie: the truth of the premises underpins the truth of the conclusion), use inductive arguments (ie: past experiences to guide future behaviour), or "inference to the best explanation". "In this form, the evidence for our conclusions may not guarantee the truth of that conclusion, but the conclusion may yet be our best bet until we have an alternative explanation that supersedes it" (Bennett 2010 pxiii).

[3] Bioethics were first used in the 1970s "to capture the concerns of life scientists about the human capacity to alter nature, and the impact of that capacity on our global future" (Arras et al 2015a pxxiii). Traditionally, the focus has been on the individual and clinical medicine, but this has "blinded it to the most pressing moral challenges in public health, in particular vast and unjust global health inequalities, the impact of economic and environmental policies on health, domestic health disparities, and human rights and health" (Arras et al 2015a pxxiii).

[4] Arras (2016) distinguished clinical bioethics (involved in clinical decisions), policy-oriented bioethics (involved in the foundation of policies), and "bioethics as a theoretical pursuit of truth". The latter approach is less concerned with the real world as in Rawls' (1971) idea of "full compliance", where everybody obeys rules and there is no racial discrimination, for example.

[5] Seedhouse (2004) began: "In the rush to make the world a better place many health promoters have forgotten how to think. There are exceptions, but most health promotion writers, and nearly all conventional health promotion campaigns, assume very much more than they ought to. Typically they take for granted - when they should not - that health is something everyone desires equally, that choosing targets for health raises few moral difficulties, that any method which might improve health is justifiable, and that a unified health promotion movement is crusading for a healthier world".

[6] O'Neill (2002) offered two reasons for why she felt public health ethics had been neglected:
a) The preoccupation with the autonomy of individual patients;
b) The focus on justice within societies at the expense of justice across borders.

iii) The promotion often involves government action;

iv) There is an intrinsic outcome-orientation - ie: public health seeks to reduce bad health outcomes and promote good ones.

Duncan (2010) suggested three separate strands (or "narratives") in the ethics of health:

a) What "health" is.

b) "Health" as a value - For example, in a religious context, illness and disease are seen as punishment for sin, and so good health is valued as moral purity.

c) The history of ethics in health care.

Duncan (2010) noted that ethical thinking may come from the "outside in" (eg: professional codes of conduct) or the "inside out" (eg: own ethical code). The latter can be developed by "virtue theory" or by "intuitionism" (ie: intuition guides actions).

Virtue theory has its origins in the work of Aristolte, and his idea of the "golden mean". A "good action" is the mean (middle) between two extremes (Duncan 2010). But the mean may not be obvious in a given situation. This is overcome by becoming a virtuous person who knows the mean action in a situation, and this is done through observation of others and reflection.

Virtue theory is criticised for lacking clear guidance on practical moral decision-making. So, "in the health care world of limited time and resources, decision-making at different levels, and dispute within and between these different levels, the scope for learning to live the virtuous life through following example, through observation and reflection, is surely limited" (Duncan 2010).

The alternative is the "outside in", where ethics are created externally. For example, professional codes of conduct guarantee standards, and "assert a common unity in what the profession is about and how it achieves its social function" (Duncan 2010). But codes can be "inflexible edicts", and can "privilege professional over so-called lay beliefs" (Duncan 2010).

With either "inside out" or "outside in", moral education is important (Duncan 2010).

1.1. HEALTH PROMOTION

HP is not easy to define, and, for convenience, Carter et al (2012) distinguished between HP as a normative ideal, and as it is practiced. This leads to two characteristics - the "vision of citizens: as active participants in and potential authors of their own health", and "increasing the equitable availability of the conditions and resources that improve health" (Carter et al 2012 p3) [7]. Thus, Carter et al (2012) defined HP as "that aspect of public health practice that is particularly concerned with the equity of social arrangements: it imagines that social arrangements can be altered to make things better for everyone, whatever their health risks, and seeks to achieve this in collaboration with citizens" (p3) [8].

HP can be one-to-one (eg: a doctor advising a patient about eating behaviours), or group/society-based (eg: government interventions to reduce smoking in society as a whole). The latter faces three problems (Cribb 2005):

i) "the longer and more complex the causal chains involved the harder it is to attain reliable knowledge of the effects of interventions" (p66);

ii) "more 'long-distance' health-promotion interventions will inevitably produce more complex systems of 'side-effects' which are not only difficult to predict but also difficult to evaluate" (p66);

iii) "it is difficult to distinguish health promotion from well-meaning interference in other people's lives" (Cribb 2005 p66).

Imagine a patient with poor health behaviours who feels "under the weather" all the time, who asks a doctor what they can do. What are the ethical issues facing the doctor in helping the patient. "Rule-based" ethical thinking would include what recommended behaviour is permissible and what is unacceptable, for instance, while "consequence-based" thinking concentrates on the outcome of a range of recommendations. Put in these terms, Cribb (2005) argued that HP ethics are "essentially the same" as healthcare ethics - ie: there is little difference between preventive intervention and treating a disease.

The situation changes when a doctor is a member of a

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[7] It has been argued that health is "special" in that "it has a moral significance that differentiates it from other goods (cars, say or radios) and as a matter of justice, warrants distributing it separately" (Rumbold 2017 p501). This is known as the "specialness thesis of healthcare" (eg: Segall 2007).

[8] HP can be defined, neutrally, as "incorporating all measures deliberately designed to promote health and handle disease" (Tones 1990 quoted in Duncan 1995). But, Duncan (1995) argued, "this neutrality quickly dissipates when the range of potential aims of health promotion activity are considered. Health promotion could be seen as aiming to empower individuals and communities to take action and make decisions that will improve their health. Equally, though, health promotion's aim might be construed as reducing the incidence of disease for national economic advantage, which could serve the interests of those with political power" (p72).

"health improvement committee" for the whole of society. There is a social dimension that was not present at the individual level, including the wider social costs and consequences. This is even more evident if the committee advises on alcohol-related violence, say. This links to a concern about the "medicalisation of life" or "healthism" as HP "'invades' more and more domains of our lives, and reconfigures them as domains of public health" (Cribb 2005 p68).

Within the history of HP, Cribb (2005) referred to the "frequent elision of health with welfare or well-being... To promote health is to build a society in which everyone lives together harmoniously and leads fulfilling and flourishing lives. The diffusion of means and the diffusion of ends taken together can therefore, by degrees, transform preventive medicine into a kind of utopian project" (p65).

So in HP ethics there is the concept of "a good society", which means different things to different philosophical views. The utilitarian view, for example, sees a good society as one where the population as a whole is made healthy as possible with the resources available, while the libertarian view accepts interventions by the State only to stop individuals from harming themselves and others. The "justice as fairness" view argues that a good society has "a fair distribution of good things" (Carter et al 2012) [9] [10].

Next is the issue of what HP should contribute to a good society. The obvious answer of health is not straightforward as there is limited agreement about defining health (appendix C) [11]. Definitions vary from the "absence of disease" to the World Health Organisation's "a state of complete physical, mental and social well-being" (Carter et al 2012). Seedhouse (2001), for instance, preferred the idea of "health as the conditions that allowed people to work towards, or to fulfil, their 'realistic chosen and biological potentials'" (Carter et al 2012 p6). Whatever definition of health is used, there

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[9] The "stewardship model" (WHO 2000) sees the State in liberal democracies as having a responsibility to provide conditions to allow individuals to be healthy, and to reduce health inequalities (eg: provision of health services; regulations on quality of food, clean air and water) (NCoB 2007). This idea was also advocated by the Presidential Commission for the Study of Bioethical Issues (2010) in the USA, which "calls for prudent vigilance, establishing processes for assessing likely benefits along with safety and security risks both before and after projects are undertaken" (quoted in Brownsword 2013).

[10] Bhutan, for example, is a small Asian kingdom where a Buddhism philosophy of the good is imposed by the State (Evans 2012).

[11] Cribb (2005) distinguished three broad categories of definitions:
i) Health as the absence of disease;
ii) Health as welfare - health is equated with "an ability or capacity, or set of resources" (p24);
iii) Health as well-being - eg: WHO definition.

will be implications for what HP involves.

Carter et al (2012) outlined three aspects of a definition of health:

- Useful (rather than absolute);
- Restricted (health to the body);
- Contextualised.

It is the case that "health is experienced primarily at the level of the individual but that the causes, content, and consequences of these health consequences are, in large measure, social phenomena" (Cribb 2005 p39). So, health is both an individual good and a social good.

Public health/HP policies can be justified, in summary, in a number of ways (Faden and Shebaya 2016):

i) Overall benefit - Everybody benefits from the policy.

ii) Collective action and efficiency - Certain benefits can only be gained if everybody is involved and governments can co-ordinate this. "Collective efficiency arguments rely on claims about the sheer number and technical complexity of the decisions that need to be made to protect health in the environment and in the market place, as well as the indivisible character of responses to some health threats. These arguments are buttressed by claims about the cognitive limitations and bounded rationality of individual human decision makers, and by the disproportionate political power of corporate interests and the practices they use to manipulate and exploit our cognitive weaknesses against our health interests" (Faden and Shebaya 2016).

iii) Fairness in the distribution of burdens - Similar to distribution of wealth with income tax, health "burdens" can be redistributed more fairly. For example, a universal vaccination policy involves the immunisation of low-risk individuals to ensure that high-risk individuals are also immunised.

iv) Harm principle - To prevent harm to others.

v) Paternalistic principle - Experts know better than laypeople.

1.2. GOVERNMENT INTERVENTION

Wikler (1978) provided three arguments for government intervention to change unhealthy behaviour:

i) Health as a goal itself - ie: individuals will be healthier with more health behaviour.

Wikler (1978) used the hypothetical example of a "fat tax", where individuals over a certain weight pay a surcharge which is refunded when they slim down. The benefits include living longer, but at the expense of loss of autonomy. Some individuals may love food, and quite rationally for them, prefer the pleasure of eating now to future potential gains.

ii) The fair distribution of burdens - ie: illness caused by unhealthy behaviour is a burden for others as well.

Wikler (1978) explained: "If intrusion is to be justified on the grounds that unhealthy lifestyles impose unfair financial burdens on others, then, something must be added to the argument. That extra element, it seems, is fault. Instead of the avoidability of the illnesses and their expenses, we point to the responsibility for them, which we may believe falls upon those who contract them. This responsibility, it might be supposed, makes it unfair to force others to pay the bills and makes it fair for others to take steps to prevent the behaviours that might lead to the illness, even at the cost of some of the responsible person's privacy and liberty" (p320).

iii) Benefits for society as a whole - eg: healthier workforce.

Wikler (1978) added two further questions about government intervention - "should coercion, intrusion, and deprivation be used as methods for inducing change?", and "how do we decide whether a given health promotion programme is coercive, intrusive, or inflicts deprivations?".

1.3. BEHAVIOUR MODIFICATION

Leichter (1991) pointed out that "a good deal of disease is self-inflicted" (ie: due to health behaviours and lifestyle choices). So, to improve health the answer is to change the behaviours and choices for the better through the use of "behaviour modification".

Leichter (1991), again: "While it is generally accepted that each of us is, to a certain extent, 'dangerous to our own health', there is far less agreement on what can or should be done about making people less foolish. In particular, there is the question of how far government should go in fashioning lifestyles to minimise the physical and mental harm we inflict upon ourselves and others in society through risky personal choices" (quoted in Holland 2007).

Techniques of behaviour modification include:

i) Mass health communication campaigns - usually initiated by the State and often using the techniques of commercial advertising and marketing.

ii) Specific interventions - aimed at specific individuals who need to change their behaviour.

iii) "The healthy environment" - the State changes the environment in order to encourage healthy behaviours (eg: "sin taxes" on cigarettes).

Behind the different techniques of behaviour modification is the issue of autonomy/empowerment and coercion. The ideal of HP is that individuals will freely choose the "right" behaviour, and this can be achieved by informing individuals of the "facts". However, Katz and Peberdy (1997) noted: "Professionals may exert considerable pressure on their clients because they are seen as 'experts' and this can undermine people's freedom to choose... In providing people with information and support to make an informed decision it is often quite difficult to avoid putting pressure on them to make the 'right' decision. After all, that is what you want to make!" (quoted in Holland 2007).

A problem with behaviour modification is "victim-blaming", which ignores the role of upbringing, culture and society, for example, in health (Holland 2007). This links with the wider philosophical debate about free will and determinism, and moral responsibility (appendix D).

1.4. ETHICAL ISSUES IN HEALTH PROMOTION

Carter et al (2012) described four ethical issues that arise from HP policies.

1. HP as impinging on or enhancing the freedom of the individual.

Braunack-Mayer and Louise (2008), for instance, argued that HP is health improvement (ie: empowerment). But empowerment "may not be achievable; empowerment strategies may assist some community members to dominate others, or encourage them to demand ineffective or harmful interventions, a concern echoed by practitioners. So empowerment should not be pursued as an end in itself"

(Carter et al 2012 p10) [12].

HP policies may confront personal freedom in three ways (Carter et al 2012):

- Persuasion - encourage behaviour change through argument. Campbell (1990) emphasised that the process of persuasion should be clear (ie: not covert), not fact-distorting, or linked to vested interests, for example. Social marketing campaigns tend to use prevention.

- Coercion - changing behaviour through threat or force. Coercion can vary from "reasonable" to "unreasonable" (Carter et al 2011). The latter might include "teaching people to perceive themselves negatively in new ways or exposing them to fear about new and previously unidentified risks, especially if they are at low risk of actual disease, suffer no apparent symptoms, and may never experience the predicted impact on health outcomes" (Carter et al 2011 p466) (appendix E).

- Paternalism - interfering with the individual's freedom without their consent for their own good.

Coercion or paternalism could be justified to stop individuals harming themselves or others. Libertarians challenge such ideas with their emphasis on "negative freedoms" - the freedom to be left alone and not interfered with (Carter et al 2012).

An alternative view is the capability approach (eg: Nussbaum 1999), which focuses on individuals having the opportunity to achieve well-being. So, rather than changing unhealthy eating behaviours by restricting high sugar foods, say, this approach would subsidise healthy foods to give the opportunity for individuals to afford them, and so encourage health eating that way.

2. HP as a source of collective good.

HP often focuses on the individual, and the good for them, there is good that only exists at a collective level - eg: a city that is pleasant to walk around and so encourages walking and the improvement of health that way.

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[12] HP ethics face the problem of "conceptual vagueness" (ie: poorly defined) for key concepts like justice, health equity, enablement and empowerment (Carter et al 2011).

3. Victim blaming and stigmatisation.

Too much emphasis on the individual and how they can improve their health can produce social norms that place moral responsibility on the individual for their health. Health is a product of individual and social determinants, but if individuals come to believe that they control their health, individuals who do not show the signs of healthy behaviour will be blamed and stigmatised. For example, a social marketing campaign to encourage exercise for reducing obesity could lead to individuals who do not lose weight being blamed for not trying hard enough.

On the other hand, a utilitarian view might see stigmatisation as an effective way to change unhealthy behaviour. "On this view, stigmatisation that 'works' to improve health is morally acceptable. This argument is clearly ethically problematic. It focuses on the health dimension of well-being at the expense of other dimensions, such as respect. It ignores evidence that stigma makes life more miserable and stressful and so is likely to have direct health effects. It fails to recognise that being stigmatised travels with disadvantage, that stigmas tend to cluster, and that stigmatised conditions are only partly the responsibility of the individuals who experience them, such that these individuals should not be held responsible unless the other involved parties are also held responsible" (Carter et al 2012 pp14-15).

4. The distribution of the benefits of HP.

Powers and Faden (2006), for example, argued that the least well off in society experience "densely woven systematic patterns of disadvantage" (ie: multiple, simultaneous disadvantages). So, for these authors, the benefits of HP should be distributed more to such individuals. Similarly, Goldberg (2012) argued that "while we should aim to improve everyone's health, we should aim to improve poor people's health more, because they are currently bearing most of the burden" (Carter et al 2012 p17).

These views would be opposed by a utilitarian one which wants "to maximise average health without too much concern for its distribution or the potential ill-effects" (Carter et al 2012 p16).

1.5. ETHICAL PRINCIPLES

The deontologist approach argues that individuals should act according to their moral obligations and duties, while the consequentialist (or teleological) approach emphasises acting in a way that produces the best possible consequences (Duncan 2010).

Immanuel Kant is a key voice in the former approach, and he produced "a priori" arguments (ie: independent of experience, through reason and deduction, as opposed to empiricism) (Duncan 2010). Kant proposed that "acting for the sake of duty is the proper expression of good will" (Duncan 2010 p51), and the expression of reason. He formulated the "categorical imperative" - "Act only on that maxim through which you can at the same time will that it should become a universal law" (quoted in Duncan 2010).

In health care this manifests itself as a duty of care for patients. There are other relevant duties, like respecting the wishes of the patients, which can lead to conflict.

Persuading individuals to change their unhealthy behaviour seems better than coercion. Duncan and Cribb (1996) applied four ethical principles to such policies [13]:

i) Beneficence - The positive benefits of change outweigh the individual costs. But the concept of "benefit" is contestable. Smoking, for example, seems an obvious behaviour to change, but it could protect "the mental health of a single mother because she sees cigarettes as the one thing she allows for herself" (Duncan and Cribb 1996 p342).

ii) Non-maleficence - The health change should cause no harm. Screening, for instance, may cause "harm" from receiving the bad news of positive results or false positive results.

iii) Respect for autonomy - Not only should a HP policy not force the individual to change [14], but such

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[13] Originally proposed by Beauchamp and Childress (1983). These principles are seen as "prima facie" - ie: each principle is binding unless it conflicts with another principle (Duncan 2010). Engelhardt and Wildes (1994) saw the many different values in (post-modern) society today producing "moral strangers" who "do not see the world in the same way. They do not possess common content-full moral premises so as to resolve concrete moral controversies or agree regarding the nature of true human flourishing" (quoted in Duncan 2010).

[14] Rawls (1971) proposed a communitarian view, which emphasises the importance of community (rather than the individual), and of values like reciprocity, mutuality, citizenry, universality, and solidarity (Prainsack and Buyx 2011).

Prainsack and Buyx (2011) defined "solidarity" as "shared practices reflecting a collective commitment to carry 'costs' (financial, social, emotional or otherwise) to assist others" (pxiv). Implicit in this definition are three tiers:

1 - interpersonal level - "manifestations of the willingness to carry costs to assist others with whom a person recognises sameness or similarity in at least one relevant respect" (Prainsack and Buyx 2011 pxiv);

2 - group practices - "manifestations of a collective commitment to carry costs to assist others (who are

policies can assume self-determination of health which is over-optimistic.

In the past, doctors made the decisions about what patients should do. Then the "The Silent of Doctor and Patient" by Jay Katz in 1984 led to patient-centred decision-making (Gawande 2002). But what if patients as autonomous decision-makers make bad decisions?

Gawande (2002) argued that "there are still times when a doctor has to steer patients to do what's right for themselves. This is a controversial suggestion. People are rightly suspicious of those claiming to know better than they do what's best for them. But a good physician cannot simply stand aside when patients make bad or self-defeating decisions".

Gawande (2002) also noted that the "new orthodoxy about patient autonomy has a hard time acknowledging an awkward truth: patients frequently don't want the freedom that we have given them. That is, they are glad to have their autonomy respected, but the exercise of that autonomy means being able to relinquish it. It turns out that patients commonly prefer to have others make their medical decisions".

iv) Justice - HP policies based "firmly on individual alteration to behaviour, in fact promotes inequality. It does so because it strongly encourages change within a framework of choice outside the grasp of 'needy' target groups. In addition, it provides no mechanism for addressing determinants of health broader than individual lifestyle" (Duncan and Cribb 1996 p344).

Duncan (1995) considered the four principles in relation to the "Cash to Stop Smoking" programme in the UK, where pregnant women who smoked were given a "cash incentive" to stop.

- Beneficence - benefits to woman's health and to baby-to-be.

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linked by means of a shared situation or cause)" (Prainsack and Buyx 2011 pxv);
3 - Contractual and legal manifestations.

Tussman (1960) summed up the communitarian approach in relation to the government's aim of the "welfare of the individual" - "The government's concern for the individual is not to be understood as a special concern for this or that individual but rather as concern for all individuals. Government, that is to say, serves the welfare of the community" (quoted in Beauchamp 2007).

- Non-maleficence - psychological harm if the woman cannot stop or relapses.

- Autonomy - "Is encouraging behaviour change through cash or gift incentive likely to pay proper attention to respect for the autonomy of the individual? The process may be rather mechanistic ('pulling the right string') rather than responding to individual need" (Duncan 1995 p74).

- Justice - effective use of resources to help an "at risk" group.

Foucault's (eg: 1999) analysis of HP policies that encourage "empowerment" to change behaviour would be a critical one. The apparently non-coercive approaches control behaviour by "surveillance" and power relations. Individuals internalise "powerful norms about what is good and bad: 'healthy' or 'unhealthy'; acceptable or unacceptable; desirable or undesirable" (Duncan and Cribb 1996 p346), and "discipline" themselves as "we 'could do better'" [15]. Put simply, what appears to be choice is a subtle form of "coercion" (appendix F).

1.6. ETHICS AND EVIDENCE

Carter et al (2011) proposed a framework to cover practice ethics and evidence-based HP. Though the latter is important, it is "never straightforward", "not least because it is social and political, involving contests between community, corporate, bureaucratic, and political stakeholders" (Carter et al 2011 p465). Furthermore, the evidence available often shows a need for change, but rarely a "what should be done" or a "how to do it" (Carter et al 2011).

There is also the question of what is evidence, and, in the case of multiple sources of evidence, which is best? Randomised controlled trials (RCTs) and meta-analyses are seen as the pinnacle of a "levels of evidence" hierarchy [16]. But "simplistically applying such hierarchies can devalue investigation into both the human

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[15] Foucault was interested in how "a human being turns him- or herself into a subject" (Foucault 1981 quoted in Martin et al 1988). This involves "practices whereby individuals, by their own means or with the help of others, acted on their own bodies, souls, thoughts, conduct, and way of being in order to transform themselves and attain a certain state of perfection, or happiness, or to become a sage or immortal, and so on" (Martin et al 1988 p4).

[16] In order of importance - meta-analysis, randomised controlled trial, non-randomised trial, observation study, non-experimental study, and expert opinion (Harbour and Miller 2001). An alternative taxonomy from Upshur et al (2001) is quantitative-general, quantitative-personal, qualitative-general, and qualitative-personal types of evidence (in that order of importance (Petrova et al 2006).

subjectivity and the social and cultural complexity that are so important for health promotion. Researchers also argue that evidence hierarchies may skew the evidence base and thus evidence-informed health promotion practice" (Carter et al 2011 p465) [17].

Carter et al (2011) pointed out: "Values are also inherent in the generation and evaluation of evidence, although this is not always evident in the rhetoric of evidence-based practice... The criteria by which certain data come to be designated as evidence, and others scorned, is fundamentally a question of values" (p468).

Weed (1997) distinguished between scientific and extra-scientific values, where the former relate to the scientific community as a whole, while the latter are "things valued by individual scientists (eg: arising from political, religious, social, or cultural commitments)" (Carter et al 2011). Both values are involved in the collection of evidence. "Scientific values create norms for research practice; extra-scientific values may contribute to a researcher's choice of research questions or study variables, as well as the interpretation of results" (Carter et al 2011 p468).

Weight is a good example of the problems in establishing evidence. For example, it could be that fitness is more important than weight. Also "identities are tightly bound up with our bodies, so messages about our bodies may seem indivisible from messages about our intrinsic worth. This problem worsens when 'overweight and obesity' is constructed as a single 'at risk' category, in which a body weight index (BMI; defined as weight in kilograms divided by height in meters squared) of 26 or 36 may be discussed in similar terms. Food is a symbolically and socially central aspect of human life, such that attempting to change people's food habits can be an intervention into their culture, society, and relationships. Physical activity also has different meanings for different cultural and socio-economic groups, with implications for exercise interventions" (Carter et al 2011 p466).

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[17] The systematic review of evidence in the health sciences is undertaken by the Cochrane Collaboration. Named after Archie Cochrane, and inspired by his 1972 book "Effectiveness and Efficiency", the Cochrane Collaboration is seen as the leader of evidence-based medicine (EBM). EBM views the RCT as the principal tool.

The dominance of RCTs, Askheim (2017) argued, threatens "to marginalise other more tacit forms of knowledge such as clinical intuition and, more broadly, the core dimension of clinical work" (p41).

Askheim (2017) later stated: "RCTs are not the only option, but they are one option, one method among many for approaching medicine as both curative and caring. There need not be a process of purification, through which 'methodological fetishism' [Greenhalgh 2012] pushes care outside the science of medicine" (p44).

Carter et al (2011) proposed five principles for their general framework for ethics and evidence in HP:

i) HP thinking should be situation-specific and not universal. For example, interventions for smoking in China will vary from weight reduction programmes in Australia because of national values.

ii) Be aware of the values implicit in evidence.

iii) Clearly state the evidential and ethical concepts involved in a situation.

iv) Highlight trade-offs in ethical decisions.

v) Show procedural transparency for the reasoning involved in decisions.

1.6.1. Values-Based Practice

Dworkin (1995) described three kinds of values:

i) Subjective - related to preferences;

ii) Instrumental - related to the usefulness of a thing; eg: a train that gets a person home;

iii) Intrinsic - fundamental values (ie: "those things in our lives that make living them worthwhile"; Duncan 2010 [18]).

"'Health' can be understood as a value according to all the kinds of classification described by Dworkin" (Duncan 2010).

"Values-based practice" supports clinical decision-making by medical professionals by linking "generalised scientific knowledge of evidence-based practice to the particular values - the needs, wishes and expectations - that individual patients bring to the clinical encounter" (Petrova et al 2006 pp703-704).

Values are often unnoticed, particularly when they are shared. For example, dealing with a bleeding wound is based on the value judgment that "human life is precious and that it may be in danger", and this agreed by most people (Petrova et al 2006).

But what happens where there is a conflict of values? For example, blood transfusions are not acceptable to certain religious groups, who, by refusing

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[18] The "experience of worthwhile living" argument as opposed to the general value of a thing (the general recognition argument) (Duncan 2010).

the emergency treatment, place their religious beliefs and identity above the value of maintaining life. This is quite an obvious conflict, but more subtle ones exist, like cultural preferences for larger body sizes and the implications for weight loss and health (Petrova et al 2006).

Petrova et al (2006) continued: "Society has become both more heterogeneous and more open to different forms of living with the diverse values they embody, and health care has come to reflect this. The new patient-consumer has become more knowledgeable, powerful and explicit about his or her values. Clinical focus has also changed – there has been a shift of emphasis from treatment to prevention, from hospital to the community, from the relative uniformity of the in-patient ward to the huge variety of our lifestyle and everyday practices. Such changes limit the range of shared values that can be taken for granted when making decisions about health" (p704).

Petrova et al (2006) distinguished six "types" of values that may be relevant to value-based practice:

- Personal existential (eg: relating to what is important in life);

- Social, cultural, ethnic, group (eg: values that are basis of a group);

- Disciplinary, scientific, theoretical (values of research);

- Processes of assigning (deciding whether something is good);

- Processes of selection, of singling out (defining what is important in a particular situation);

- Processes of ranking and prioritisation (assigning value relative to other values).

Petrova et al (2006) outlined ten principles for value-based practice:

i) All decisions are based on evidence and values.

ii) Notice values even when there are not conflicts between them.

iii) Scientific progress opens up choices and widens the values in play related to health care.

iv) The perspective of the patient is the "first call" in decisions.

v) Conflict of values are not resolve by who is right, but by processes that support all views.

vi) The language used is important.

vii) Resources are available to improve knowledge of other's values.

viii) Ethical reasoning is used to explore differences in values, not to establish who is right in some quasi-legal sense.

ix) Communication skills are an important part of the process rather than just a means to an end.

x) Decision-making belongs with users and providers of healthcare not ethicists and lawyers.

1.7. HARM PRINCIPLE AND FREEDOM OF THE INDIVIDUAL

John Stuart Mill saw coercion by the State as permissible to prevent harm to others (appendix G). This is the "harm principle" (Mill 1974 [19]). Feinberg (1984) took a similar position: "It is always a good reason in support of penal legislation that it would probably be effective in preventing (eliminating or reducing) harm to persons other than the actor (the one prohibited from acting) and there is probably no other means that is equally effective at no greater cost to other values" (quoted in Jonas and Thornley 2011).

Brownsword (2013) adapted Mill's idea into a "spirit of liberalism", where "regulators should always try to leave room for individuals to make their own judgment of what is in their own best interest" (p236).

Brownsword (2013) summed up the issue for liberals: "If we are committed liberals, we believe that competent humans should be left to make their own self-regarding prudential judgements, even if (to borrow from Inez de Beaufort 2010 [20]) their preference is for eating 'queen of puddings, sticky toffee puddings, and knickerbocker glories' (passim). That said, we are not all liberals; and some of the limits that liberals seek to impose on public health interventions might seem excessive. If we are happy to let people canoe downstream, unaware that they are about to plunge over a precipitous waterfall, then fine; but, of course, even Millian liberals

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[19] Originally published in 1859.

[20] Lecture at Royal Society, London, entitled "Whose potbelly is it anyway?".

recognise a responsibility to warn others of hazards ahead" (p239).

Three main exceptions to leaving individuals to do as they want can be distinguished:

i) Direct harm is done to others from the action - But "harming others" is a fluid concept as individuals vary in terms of "taking offence" at what is said, for instance. Mill "does not rule out the permissibility of harming others when they are so thin-skinned or tempestuous that they are simply too easily offended" (Fitzpatrick 2008 p99).

ii) Harm to the self indirectly harms others.

iii) The individual is incapable of self-governance (eg: children; mentally ill or incompetent individuals) - Relevant issues here include when a child becomes an adult, and how to establish mental illness or incompetence (Fitzpatrick 2008).

The focus on the individual, and the ideas of Mill, ignores "a very large set of problems that afflicts the community as a whole and that results primarily from inadequate safeguards over the practices of the common life" (Beauchamp 2007 p53). This class of harms has been called "summing up problems" or "choice-in-the-small versus choice-in-the-large" (Beauchamp 2007).

1.7.1. Paternalism and Mayor Bloomberg

Paternalism (ie: coercing individuals into doing what is good for their health) links to consequentialism (ie: the benefits for public health outweigh the aggregate effect on individuals' "loss of freedom"). While "nudge" theory (or "libertarian paternalism" or "choice architecture") (Thaler and Sunstein 2008) (appendix H) does not take away choice, rather individuals are guided into the "correct" choices by their environment.

Thaler and Sunstein (2008) distinguished between the "planner" and the "doer" as two sides of the individual. The "planner" side intends not to eat and drink unhealthy things, while the "doer" side behaves in the situation of the availability of unhealthy foods.

Paternalism has been divided into "soft" and "hard". Feinberg (1986), for example, referred to the former as "substantially non-voluntary", where there is "a kind o paternalism that will interfere with your choices only if you have made some sort of error that means your choice does not really advance what you want" (Conly 2013 p244).

"Hard" paternalism imposes upon the individual even if the individual's choices are fully informed and rational, according to Feinberg (1986).

Conly (2013) proposes a "soft paternalism" that allows individuals the room to make the "self-destructive choice", so the emphasis is upon education and persuasion [21]. She summed up paternalism thus: "Generally, public health measures are intended to help people achieve what in fact they most want, in the long term, and most people want to live a long healthy life, both for its own sake, and because they also want to have other things of which they can have more if they live long healthy lives – social relationships, achievements or just time spent in pure enjoyment" (Conly 2013 p241).

Darwall (2006) criticised paternalism thus: "The objectionable character of paternalism... is not that those who seek to benefit us against our wishes are likely to be wrong about what really benefits us... It is, rather, primarily a failure of respect, a failure to recognise the authority that persons have to demand, within certain limits, that they be allowed to make their own choices for themselves" (quoted in Conly 2013). Conly (2013) countered that "it does not degrade us, as humans, to accurately assess our abilities" (p242). She continued: "And because coercive paternalism not only recognises our cognitive shortcomings, but moves to help us where those abilities are shaky, it actually values our choices about our ultimate goals..." (Conly 2013 p242).

Take the example of an individual who thoroughly researches the long-term effects of heroin before choosing to take it now for the enjoyment. Goodin (eg: 1989), who has defended paternalism, would argue that the interests of the future self rank higher than those of the current self (ie: future addiction above current pleasure from the drug), and so the individual should be stopped from taking the drug now. Mill, on the libertarian side, might counter with the question of the certainty of future danger (Fitzpatrick 2008).

The Mayor of New York City (2002-2011) [22], Michael

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[21] Wikler (1978) observed: "Health education seems harmless. Education generally provides information and this generally increases our power, since it enhances the likelihood that our decisions will accomplish our ends. For the most part, there is no inherent ethical problem with such programmes and they do not stand in need of moral justification. Still, there are certain problems with some health education programs, and these should be mentioned. Health education could be intrusive. Few could object to making information available to those who seek it out. But if 'providing information' were taken to mean making sure that the public attained a high level of awareness of the message, the program might require an objectionably high level of exposure" (pp327-328).

[22] Obesity is a real issue for New York City with over half of its population categorised as overweight

Bloomberg, introduced a number of health measures in the early 2000s (table 1) [23], including requiring restaurants to print the calorie count of each meal on the menu (appendix I). If the aim of such a move is simply to inform, then facilitating informed choice could be the outcome. But if the information is presented "in the face" of consumers, then the potential for "coercion" is present in the form of "nudges" [24]. Brownsword (2013) noted that "advocates of such a strategy like to defend it as compatible with liberal principles because there is the option to opt-out; no-one is forced to eat salad rather than fries" (p238).

- Artificial trans-fat (partially hydrogenated vegetable oils) ban - less than 0.5 g per serving (introduced in 2007). Linked to heart disease, and estimated to reduce heart disease by 6-23% (Isett et al 2015). Fears of price rises and "tasteless" food have proved unfounded (Gostin 2013).

- Menu labelling - restaurants to include calorie information. It is argued that individuals underestimate caloric content of food, but studies find that such information has a limited effect on purchasing decisions. Providing the information in a different way may be better (eg: 450 calories = 80 minutes of running) (Gostin 2013).

- National Salt Reduction Initiative - many companies voluntarily pledged in 2009 to reduce sodium in food by 20% by 2014.

- Sugar-sweetened beverage (SSB) portion limits - a "king-size" SSB (12 oz) in 1950 is now a "child size" in the USA (Gostin 2013) [25] [26] [27].

- Disease surveillance - diabetes and HIV.

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or obese, and nearly three-quarters in the poorest neighbourhoods (Gostin 2013).

[23] To his critics, he "epitomises a meddling nanny - an elitist dictating to largely poor and working-class people about how they ought to lead their lives", while his supporters emphasised the "new public health" he offered, "reaching beyond infectious diseases to upstream risk factors in everyday life and the human habitat" (Gostin 2013 p19).

[24] Levy (2017) introduced the idea of "nudges to reason" to describe nudges that increase responsiveness to evidence rather than nudges to directly change behaviour. They are appeals to the deliberative capacities, and enable responsible decision-making, rather than challenging autonomy.

[25] A meta-analysis of studies that manipulated portion size of food and/or drink by Zlatevska et al (2014) found that the doubling of portion size increased consumption by 35%, until a certain point, such that the relationship between portion size and consumption is curvilinear.

[26] Using self-reported data in the USA for 2007-10 on SSB consumption, Wang and Vine (2013) calculated that the 16 oz cap would affect around 7% of children and adults, with a reduction of 50-60 kcals per day. However, the researchers noted, "some consumers may decide to purchase more than one beverage in response to the smaller portion size offered. If only half the affected individuals downsize to a 16-oz beverage, whereas the other half purchase two 16-oz beverages (totalling 32 oz), then the net caloric effect would not be significantly different from zero" (Wang and Vine 2013 p432).

Prior to the policy, Elbel et al (2012), in an analysis of fast food restaurant receipts, calculated that two-thirds of beverage purchases would be above the 16 oz cap.

[27] Sales of "Lucozade" have fallen by 8.4% in the UK since the reduction of sugar from 8.7 g per 100 ml to 4.4 g (in the "Original" brand) and 13 g to 4.5 g (in the "Energy Orange" brand) in 2016. The UK Government has set targets for producers to reduce sugar by one-fifth by 2020 (News 2017).

- Facilitating bicycle use - adding bicycle lanes.

- Tobacco control - ban on smoking in restaurants and bars (introduced in 2002).

- Regulation of diesel exhaust in school buses, tour buses, and sanitation trucks (introduced in 2005 to improve air quality).

Table 1 - Key public health measures introduced in New York City.

However, Brownsword (2013) challenged this argument in that there is an inbuilt preference in the regulation (ie: to eat healthily), and there is not necessarily public agreement on the issue.

Another measure proposed in New York City was the banning of very large servings of sodas (sugar-sweetened beverages; SSBs) (ie: over sixteen ounces/473 mL [28]) (introduced in 2012) [29]. Conly (2013) noted: "Controlling the portion sizes interferes with our freedom of choice, and to that extent with our autonomy, but could nonetheless be the most morally acceptable way of dealing with our unfortunate weakness for foods that hurt us" (p244).

Gostin (2013) summarised the issues related to the policies:

- The science behind the policies was not always conclusive.

- The policies could be inconsistent - eg: SSB portion size applied to fast-food outlets but not convenience stores.

- Paternalism.

- The rights of corporations to market their products.

- Unilateral executive power exercised by the Mayor.

- "Slippery slopes" - the argument that the bans will increase with time.

- "Duelling conceptions of justice" - "Because obesity- and tobacco-related diseases fall primarily on African Americans, Latinos, and the working-class,

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[28] A typical 16 oz SSB contains 180 kcals and thirteen teaspoons of sugar.

[29] Such a policy is, what Dworkin (1983) called, "impure paternalism" as it targets producers rather than consumers (Conly 2013).

> interventions necessarily apply disproportionately to those groups" (Gostin 2013 p24).

1.7.2. Autonomy

Owens and Cribb (2013) distinguished between "autonomous deliberation", which is "exercising the capacity for choosing", and "autonomous action", which is "exercising the capacity for action". The former is seen in the work of Frankfurt (1989), for example, and the proceduralist approach. Autonomy, thus, "resides in an agent's ability to critically reflect upon their desires and act accordingly to those that are most in line with their true and authentic volition" (Owens and Cribb 2013 p264). A prime example of this is patient autonomy, where doctors are expected to provide neutral information about the treatment options, and patients come to the decision about the treatment they want.

Owens and Cribb (2013) noted two issues here:

i) Presenting autonomy as independent "downplays the potentially positive effect that social interaction with others may have upon a person's autonomy" (Owens and Cribb 2013 p264). For example, the doctor may not offer all the treatment options, or placing the emphasis on the patient decision can deprive them of the "resource" of the doctor.

ii) Individuals vary in many ways (eg: age, gender, socio-economic status), and this can influence their choices - ie: "human beings are always situated within complex material and social structures, which have a bearing on the psychological processes that determine their capacity for autonomy" (Owens and Cribb 2013 p265).

These points fit with the idea of "relational autonomy", which takes into account the "causal role that the agent's personal and environmental circumstances may have upon their capacity for autonomous deliberation, and the influence that these circumstances may have over the decisions that the agent actually makes" (Owens and Cribb 2013 p265). Thus, autonomy is "a socially constituted capacity" (MacKenzie 2008).

It is one thing to have the ability to choose, it is another to be able to act upon these choices (autonomous action). The focus then becomes what the individual needs to enact their choices. This is seen in the capabilities approach (Sen 1985), which sees "a person's capacity for autonomous action in terms of the capability he/she has to achieve certain states of functionings that they recognise to be valuable" (Owens and Cribb 2013 p267). The environment, for example, may be a constraint on autonomy of action, so Prah Ruger (2010) argued that the government should provide an environment that allows individuals an equal capability to be healthy.

Autonomy is grounded in the idea of personhood, which Thomas Hobbes, in the seventeenth century, described thus: "A person is he, whose words or actions... are considered as his own" (quoted in Duncan 2010). More practically, a person is "someone who has a right to be treated as a person because she is someone like you or me, who are undeniably persons (because we think and feel and have plans and intentions)" (Duncan 2010).

1.7.3. Example of Smoking

Jonas and Thornley (2011) observed: "It is difficult to imagine a plausible moral theory positing that harm to others is never a morally relevant consideration, or that the state should never be empowered to act in response to harm to others, or the threat of it. Since the interests of others matter morally, and legally, so does harm to others" (p129). But what if the harm to others is not clear-cut, and the prevention of harm conflicts with other principles? Jonas and Thornley (2011) used the example of parents smoking in their home or car in the presence of their children. Should the State make exposing children to environmental tobacco smoke (ETS) in the domestic setting illegal?

"Clearly, coercive interference in practices that occur in private homes provokes particularly acute and widespread concern about privacy and freedom, and there is no doubt that some view legislation of parental practice that is directed at child harm as a means of undermining parental prerogative. With respect to legislation intended to reduce children's domestic exposure to tobacco, two sources of concern join forces: the first relates to state recognition of parental authority; the second to the sanctity of the home as a private space" (Jonas and Thornley 2011 p133).

The first problem, however, is to establish "harm" - what it is, and whether it is being done to children by ETS exposure. Hanser (2008), for instance, described being harmed as "becoming worse off in some respect than one was before" (known as the temporal baseline). This is not easy to establish for ETS, at least in the immediate term.

Another possibility is the "closest possible worlds" (Wilkinson 2003) or "counterfactual comparison" baseline, which Hanser (2008) defined thus: "a person suffers harm if and only if there occurs some event 'e' such that he would have been better off had 'e' not occurred" (quoted in Jonas and Thornley 2011).

Take the example of withholding painkillers from a headache sufferer. "The temporal baseline suggests this is not harmful, since the sufferer is not made worse off with respect to obvious measures such as pain. But a counterfactual comparator might suggest otherwise. Withholding analgesia might not, for instance, increase a person's pain or suffering, but it might make a person worse off in another respect, worse off than she could be, if other facts held true" (Jonas and Thornley 2011 p135).

The upshot is that different definitions or baselines of harm will lead to different conclusions about the harmfulness of parental behaviours (Jonas and Thornley 2011).

Jonas and Thornley (2011) outlined seven criteria by which to evaluate harm and whether coercion in the form of legislation is recommended:

1. Nature of the practice - the behaviour that is to be regulated should be clearly definable and identifiable.

2. Severity of the harm - the more severe the more legislation is a possibility.

3. Probability of the harm - the likelihood the harm will occur.

4. Strength of evidence.

5. Contextual concerns - eg: consideration of situations where harm is a "necessary evil", like transporting children in motor vehicles; finding other ways to reduce the harm, like making cigarettes illegal.

6. The susceptibility of the practice to change - legislation is not appropriate if a behaviour cannot be changed or could be willingly changed with little persuasion.

7. Unintended consequences.

Table 2 applies these principles to children's exposure to ETS.

Talking about the ban on smoking generally in public places, this becomes most controversial for public spaces that are neither entirely enclosed nor non-enclosed, like railway station platforms. Fitzpatrick (2008) commented that they represent "a move towards a sanitised, homogeneous conception of public space that is not only concerned with eradicating harms - acceptable, so long as the harms are not so trivial that even more damage is

PRINCIPLES	APPLICATION
1. Nature of the practice	Smoking is clearly definable and identifiable
2. Severity of the harm	A number of health conditions in children are linked to ETS
3. Probability of the harm	Certainty cannot be established, and the harm from ETS will vary with other factors like ventilation
4. Strength of evidence	Observation studies (as intervention studies are not possible - ie: randomising children to receive ETS or not)
5. Contextual concerns	eg: Parents whose smoking is restricted to away from their children may consequently neglect caring for the children in order to service the tobacco need
6. Susceptibility of the practice to change	Smoking is addictive, so the susceptibility to change may be limited
7. Unintended consequences	eg: Children placed by smoking parents with non-smoking adults as carers may harm the interests of the children

Table 2 - Seven principles for legislation as applied to children's exposure to ETS.

done by eliminating them - but no longer trusts adults to judge risks and choose sometimes to place themselves in potentially harmful situations... The medical expert who wants smoking banned in all public places... has crossed the line from doctor to nanny" (p103).

Fitzpatrick (2008) highlighted the social context to debates about the ethics of State intervention on public health. In particular, he referred to "the marketisation, welfarisation and medicalisation of risk", which has produced "a tendency to stress risk avoidance at the expense of risk taking and navigation, and to re-regulate public space due to a lack of trust that individuals can recognise, gauge and traverse harm themselves. The notion that we can sometimes choose harmful acts has become more alien to policy makes; taken as a failure of reason rather than reason's manifestation" (Fitzpatrick 2008 p114).

1.7.4. E-Cigarettes

Public health research seeks to identify harm to health, and then remove or reduce them with preventive action. But what to do when there is no consensus on the evidence?

Dawson and Verweij (2017) used the example of e-cigarettes. For example, in the UK, they are seen as an effective means to reduce tobacco use, and are sold relatively freely, while in the USA, e-cigarettes are regulated as tobacco products, and in Australia "the regulatory restrictions on importation and sale of such [e-cigarette] devices are so high, there is a de facto ban" (Dawson and Verweij 2017 p1).

At an individual level, the switch from tobacco to e-cigarettes reduces harm, but this assumes that ultimately the individual stops using e-cigarettes as well (ie: all nicotine products). Dawson and Verweij (2017) noted the presence of tobacco companies in the promotion of e-cigarettes: "There is little reason to see e-cigarette promotion, whether the focus is on 'new' customers or ex-smokers, as a benign business that merely aims to serve the neutral interests of customers, especially when the best available evidence suggests that the most effective way to quit smoking is just to stop. Ironically, a 'harm-reduction' approach that focuses on e-cigarettes, patches and gum, rather than quitting, may perpetuate smoking behaviour and is, therefore, likely to be worse for any individual smoker's health" (p2). Vaping is not without any "harm to self" risks.

The "harm to others" risks from e-cigarettes includes "passive vaping", and the initiation of never previously smoked individuals into vaping and/or tobacco smoking. Dawson and Verweij (2017) observed that "the available flashy paraphernalia and range of flavours of e-cigarette vapours available (eg: pineapple, bubble gum, butterscotch, chewing gum and cotton candy) suggests that new consumers are being targeted. The promotion of these products is not like that for medical products such as asthma inhalers" (p2).

Tamimi (2017) interviewed fifteen current e-cigarette users and thirteen "Stop Smoking" advisors in south-east England. "Both groups demonstrated uncertainty with regards to the status, efficacy and risks associated with e-cigarettes" (Tamimi 2017 p4).This was seen in three ways:

i) Ambiguity about the status of e-cigarettes as a smoking substitute or as a recreational product.

ii) Ambiguity about the health risks of long-term use of e-cigarettes, and as compared to tobacco smoking.

iii) Ambiguity about the social risks - eg: a gateway from or to tobacco smoking.

1.8. CRIMINAL LAWS AND INFECTIOUS DISEASES

Infectious diseases "raise difficult philosophical questions about how to strike a balance between the goal to protect the greater good of public health and the goal to protect individual rights and liberties" (Selgelid 2011 p89).

Even taking a libertarian view, Nozick (1974) accepted that "we might need to violate 'side-constraints' (ie: human rights as he perceives them) when this is necessary to avoid 'catastrophic moral horror'... Though it should be considered an extreme or exceptional measure, there is no reason in principle to rule out quarantine altogether, even if it sometimes ends up killing innocent people, just as there is no ethical reason to rule out participation in just wars which also inevitably involve compromise of innocent individuals' rights, including the right to life" (Selgelid 2011 p92).

Selgelid (2011) listed some principles for coercive isolation and quarantine:

- Only when compelling reasons;
- Only when required;
- Only when consequences of not doing so are severe;
- It must be implemented in an equitable manner;
- It should be as comfortable as possible, and with the option of compensation for the confined.

In certain situations, governments may pass legislation about transmitting certain diseases (eg: wilful HIV transmission [30]), but "if individuals fear being held criminally responsible for knowingly transmitting a disease, they may avoid diagnostic testing, thus damaging their health and presenting a greater risk to others" (Quirk 2013 p75).

In a large-scale online survey, Weatherburn et al (2008 quoted in O'Byrne et al 2013) found that three-quarters of over 12 000 UK gay male respondents knew that "some people with HIV have been imprisoned in the UK for passing their infection to a sexual partner" [31].

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[30] "'Wilful transmission' is defined as 'transmission of HIV through any means by a person with full knowledge of his/her HIV/AIDS status to another person" (Grace 2013 p81).

[31] In England and Wales, wilful HIV transmission is prosecuted under assault laws (eg: grievous bodily harm). There is no specific legislation, and the first prosecution was in 2003. Northern Ireland is similar, but Scotland uses "culpable and reckless conduct" (ie: behaviour leading to HIV transmission

While in a US study (Galletly et al 2012), individuals aware of the relevant laws were more likely to disclose their HIV-status to a new partner than those unaware of the laws. However, based on a review of studies, O'Byrne et al (2013) concluded that "HIV criminal laws compromise the general public health", and a small number of individuals become less likely to seek help, and disclose their HIV-status.

In 2014, sixty-one countries had legislation criminalising HIV exposure, non-disclosure, and/or transmission, and prosecutions have been reported in 49 of the countries (Chen 2016).

i) Exposure - People living with HIV (PLWH) putting others at risk of contracting the virus.

Example - Kenya: Sexual Offences Act 2006 (including a maximum sentence of life imprisonment for intentional transmission).

Studies suggest that it is "extremely unlikely" such laws reduce HIV transmission as, for example, little difference in the frequency of unprotected sex has been observed in areas with or without the laws (Chen 2016).

Furthermore, "the incarceration of PLWH as a result of HIV-specific prosecutions may actually increase overall HIV transmission risk, as behaviours like unprotected sex and sharing of drug equipment are commonplace in prisons, and effective, evidence-based preventive measures like provision of condoms and sterile injecting equipment as well as programmes for rehabilitation and rape or sexual violence reduction are not" (Chen 2016 pp6-7).

ii) Non-disclosure - PLWH not revealing their HIV serostatus to those at risk of contracting the virus.

Example - Canada: legal duty of disclosure established in a case in 1998 if there is a "significant risk" of HIV transmission.

"Criminal HIV non-disclosure laws do not necessarily bring about disclosure, and in turn, disclosure does not

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rather than harm as in England and Wales) (http://www.aidsmap.com/Introduction-to-the-legislation/page/1504074/; accessed 16th October 2017).

necessarily induce positive behaviour change. Consistent disclosure of HIV status in all sexual contexts is widely viewed by PLWH as unrealistic, and interviews with PLWH reveal that what PLWH consider disclosure can often be as vague as statements like 'You know we should use a condom'... Even the most explicit disclosure does not rule out the possibility of unsafe behaviour, as many HIV-negative individuals knowingly participate in unprotected sex with PLWH" (Chen 2016 p8).

iii) Transmission - The behaviour of PLWH that leads to others contracting the virus from them.

Example - Burundi: 2005 law that equates wilful transmission to attempted murder.

"Most PLWH who transmit HIV either are unaware they are infected or do not disclose their HIV status because of fear of violence, discrimination, rejection by family and friends, or other abuses based on their HIV status" (Chen 2016 p8).

1.8.1. Online Services

Not only because of legal concerns, but online health services are growing, and have proved popular with sexual minorities (eg: Internet-based sexually transmitted infection/HIV testing for male having sex with men (MSM) [32]) for reasons of privacy, convenience, and overcoming geographical barriers (Gilbert et al 2013).

Online sexual health outreach involves both synchronous and asynchronous individualised one-to-one contact with a trained (sometimes volunteer) worker, and are "highly acceptable to MSM (Fantus et al 2017). Fantus et al (2017) explored the ethical concerns of such a programme with twenty-two outreach providers in Ontario, Canada. In terms of the qualitative analysis of the semi-structured interviews, four themes emerged:

i) Managing boundaries with clients - Service providers were often "insiders", which potentially blurred the professional and personal boundaries, as seen in this quote: "You start chatting with a guy and something happens - there's always a possibility that there will be a connection. You have to make it very

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[32] Fantus et al (2017) preferred "GB2M" to cover gay, bisexual, two-spirit, and other men who have sex with men (inclusive of cisgender, two-spirit and transgender men). "Two-spirit" is often used by First Nations individuals in Canada to describe having a masculine and feminine spirit, as well to describe sexuality (http://lgbtqhealth.ca/community/two-spirit.php; accessed 10th November 2017).

clear to the person you're communicating with that you're online in your role as either an outreach worker or an outreach volunteer" (p5).

ii) Disclosing to the clients - How much personally identifiable information to tell the client? Here are two different responses:

- "I'm very connected to the network around here and the community around here and I'm very involved in the non-profit organisations and social activism. So I'm comfortable with my information being out there. I'm comfortable with the fact that that might mean that somebody might locate me or find my information" (p6).

- "When it comes to the big demographic stuff, age and sexual orientation and stuff, I have put that as being real; where I've had to be really, really careful, though, is to say what are you open to? I leave most of it open; I didn't check off that I wasn't into barebacking. So, somebody came back and said, oh, so you bareback. So I've got to be really careful about that sort of thing" (p7).

iii) Maintaining client confidentiality and anonymity.

iv) Security and data storage.

Both these issues were desirable, but "in the digital world, there are limits in how confidentiality and anonymity can be maintained. For instance, there is often increased risk of information being shared across third parties and the inability that online platforms can secure complete confidentiality of clients" (Fantus et al 2017 p7).

1.9. JUSTICE AND FAIRNESS

Daniels (2011) asserted: "Health inequalities between social groups count as unjust or unfair when they result from an unjust distribution of the socially controllable factors that affect population health and its distribution" (p97).

He continued: "At the same time, not all health inequalities between social groups count as inequities. For example, the health inequality that results when a religious or ethnic group achieves better health outcomes than other demographic groups because of special dietary or restrictive sexual practices would not count as an inequity if appropriate health education were available to the other groups" (Daniels 2011 p98).

Daniels (2011) divided health inequalities into three types:

i) Resulting from domestic injustice in the distribution of socially controllable factors;

ii) Resulting from international inequalities in other conditions that affect health (eg: inequalities in the natural environment);

iii) Resulting from international practices (eg: "brain drain" of health personnel).

In order to promote social justice, public health involves identifying the inequalities in health - eg: differences in life expectancy between countries, and within countries between social classes. Many inequalities begin or are related to childhood, so inequalities of health of children is key (Power and Faden 2006). "The health of children is dependent on the decisions and actions of others and on features of the social structure over which children have no control. The value of health to children thus does not depend on what children can do for themselves, as it sometimes does for adults. Moreover, the level of well-being attainable in adulthood is in important respects conditioned by the level of health achieved in childhood. Compromised health in childhood has profound effects on health in adulthood, as well as on the development of the cognitive skills necessary for reasoning and self-determination" (Faden and Sebaya 2016).

In terms of global justice, different arguments can be advanced for HP that transcends national boundaries (Faden and Sebaya 2016) [33]:

i) Self-interest - Infectious diseases, for example, do not respect national boundaries, so helping another country benefits the own country.

ii) Humanitarian considerations - It is wrong not to help others in need.

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[33] The "statist" position sees social justice as the domain of the nation-state, while the "cosmopolitan" view claims that "principles of justice apply to individuals globally, regardless of the relations in which they stand or the institutional structures through which they interact" (Daniels 2011 p103).

In terms of the responsibilities of states, Buchanan and DeCamp (2011) observed: "Even if there were no such thing as positive human rights (such as the right to an adequate standard of living, the right to basic health care, the right to basic education), states would still have rather determinate moral obligations to act in ways that would greatly ameliorate the health problems of the world’s worst-off people. Simply by refraining from unjust violence and from supporting unjust governments, states could do much to improve global health" (p123).-

iii) Justice, rights and duties - This is that "everyone has a right to health and the responsibility for the realisation of that right crosses national boundaries, at least when nations cannot or will not secure it for their own citizens" (Faden and Sebaya 2016).

This right to health originates as part of all human rights, from the duty of individuals to help anyone, or as reparation for past injustices (Wolff 2011b) [34].

In terms of human rights (appendix J), the Universal Declaration of Human Rights from the United Nations in 1948 stated: "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control" (quoted in Wolff 2011b) [35].

But certain issues arise from such statements, including that a right requires a duty holder to fulfil that right, and that different rights produce conflicts (Wolff 2011b).

Infectious diseases often affect the poor more (eg: inability to pay for medicines). Selgelid (2011) stated: "Poverty alleviation would be one way to reduce disease; and disease reduction would be one way to alleviate poverty" (p91).

He continued: "Many of the social, political and economic conditions (including poverty) that promote infectious diseases like AIDS and TB are themselves products of past injustices and human rights abuses. Examination of the social, political and economic causes of AIDS and TB reveal that current prevalence rates in southern Africa are partly a legacy of slavery, colonialism, cold war manipulation (by superpowers), racist oppression and (in the case of South Africa) apartheid... Rather than being a product of mere bad luck, the health-care status quo in southern Africa is rooted in historical injustice... Some would argue

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[34] The right to health assumes an agreed definition of health, that is applicable to all individuals, and is not prohibitive in cost to achieve (Buchanan and DeCamp 2011). For some, "health is not a human right, but rather something that is nonetheless of critical moral importance because it is a necessary condition for the enjoyment of human rights" (Buchanan and DeCamp 2011 p125).

[35] Chapman (1996) noted that in the USA, for instance, discussion of human rights is "characterised by hyper-individualism, exaggerated absoluteness, and silence with respect to personal, civic, and collective responsibilities" (quoted in Benatar et al 2011). While Farmer (2003) pointed out: "Human rights violations are not accidents; they are not random in distribution or effect. Rights violations are, rather, symptoms of deeper pathologies of power and are linked intimately to the social conditions that so often determine who will suffer abuse and who will be shielded from harm" (quoted in Benatar et al 2011).

that reparations are therefore called for. If this is correct, then rich countries that have caused or been complicit in the exploitation of African countries have obligations to help improve the situation" (p91).

1.9.1. Example

Hacking et al (2011) provided evidence of a North-South divide in England in death rates for the period 1965 to 2008. Overall, premature death (ie: before 75 years old) declined in the study period, but the gap between North and South did not close; it widened for adults under 50.

Buchan et al (2017) updated this work to cover the period 1965 to 2015, and so included the "Great Recession" of 2008-9. They commented that "[S]omewhat counter-intuitively, mortality rates tend to decline faster during economic downturns, mediated in part by changes in: work and leisure patterns (through greater available time for family, leisure and physical activities and a reduction in motor vehicle deaths); and health-related behaviours (through a reduction in risky health behaviours during recessions). Some adverse risky behaviours such as excessive alcohol use decline during recessions and increase during periods of economic growth" (Buchan et al 2017 p928).

Annual counts of death were obtained from the Office for National Statistics, along with deprivation statistics. The "North" covered the North-East, North-West, Yorkshire and the Humber, East and West Midlands, and the "South" was defined as the East, South-West, London and the South-East.

Premature mortality in the North was 72 per 10 000 population in 1965 and 35 in 2010, and 64 and 28 respectively in the South. From 2010 to 2015 the rate of decline of plateaued in the country as a whole. Buchan et al (2017) stated that it "remains to be seen whether the overall plateauing is a transient phenomenon, or whether years of improving premature mortality are fading and existing wide regional disparities are persisting or worsening" (p935).

A higher death rate in the North was most evident in 25-44 year-olds, and particularly in the mid-1990s. In summary: "From 1965 to 2008 the chances of dying early (age <75 years) were a fifth higher in the North of England than the South, while England's overall mortality fell by around 50% in men and 40% in women" (Buchan et al 2017 p935).

Buchan et al (2017) made no attempt to explain the findings, other than to say it will "require detailed analysis of specific causes of death and the plausible explanations, including epidemiological, social, economic and migratory factors. The most common causes of death in this age group are suicide, poisoning, land transport accidents and liver disease. Over the age of 40, other causes become increasingly common; ischaemic heart disease in men and breast cancer in women" (p935).

The researchers finished with an observation on the ethical aspects of their findings:

> Some commentators on the nation's growing inequalities conclude that the transition from premature mortality driven by infectious diseases in the Victorian era to chronic diseases today means that the era of effective state intervention — which included the great public works of sanitation, housing reform, immunisation and universal healthcare—is past, and that responsibility for addressing current disparities now lies with the individual. Following this logic, the government would do no more than provide education and some behavioural nudges, particularly in the case of the violent and self-destructive causes of premature mortality that afflict young and middle-aged adults. However, the strong social and geographical patterning of trends in premature mortality points to structural defects that lie beyond the control of the individual, demanding collective action and a strong policy response.
>
> Future policies may be distracted from addressing inequalities due to the pan-regional nature of the apparent plateau in declining premature mortality and the reversal of declining elderly mortality. Doing so would ignore the persistent North-South divide and the potential population health gain from addressing it effectively (Buchan et al 2017 p935).

In England and Wales between July 2014 and June 2015, there was an increase in the number of deaths which was "the largest rise for nearly fifty years" (Green et al 2017). Most of the "additional deaths" were frail, elderly individuals, and Green et al (2017) investigated whether the delay in being discharged from hospital (through problems in the provision of adult social care) was involved.

Data on mortality rates, and delay in transfer of care (ie: an individual in hospital who was ready to be discharged to social care but was still occupying a bed) were analysed for the months August 2010 to March 2016.

"Delays in the discharge of acute patients were consistently positively associated with a higher monthly number of deaths" (Green et al 2017 p1069). It was estimated that around one-fifth of the increase in mortality in 2014-15 was due to delay in discharge. The researchers offered two possible mechanisms for the relationship:

a) Remaining in hospital causes stress to the individual, and/or they were not receiving the correct type of long-term care.

b) Delays in discharge had a knock-on effect for others. "A lack of available beds in hospitals due to blockages in discharging patients will harm those who have yet to be admitted and are in need of medical care" (Green et al 2017 p1070).

Green et al (2017) mentioned other relevant factors, including:

- Reduced ambulance response times (ie: longer to arrive).
- Increased waiting times for NHS services.
- An ageing population.
- Wider austerity.

The researchers ended their article: "Our results should be interpreted cautiously; the study was exploratory in nature but offers a useful starting point for further analysis. We also use population-level data and therefore cannot detect whether delayed discharges for particular individuals actually led to deaths" (Green et al 2017 p1070).

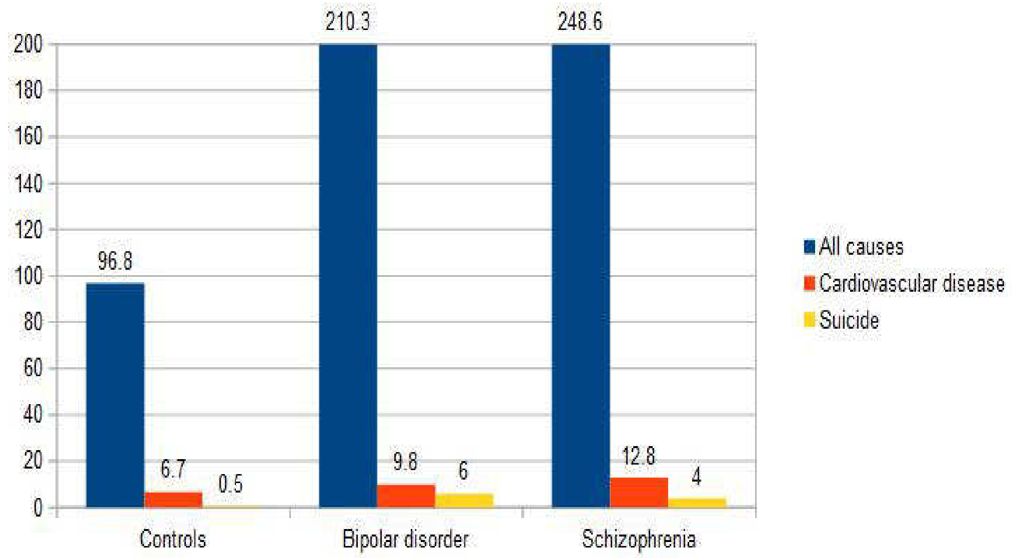
1.9.2. Another Example

Individuals diagnosed with schizophrenia and bipolar disorders (ie: severe mental illness; SMI) have a higher mortality rate than the general population in the UK (eg: 10-20 years reduced life expectancy; Hayes et al 2017). This may be due to physical health differences (eg: cardiovascular disease (CVD) deaths) or suicide and self-harm, for instance (Siddiqi et al 2017).

Recently, Hayes et al (2017) analysed data for the period 2000 to 2014 using electronic health records of the UK population. A sample of over 17 000 individuals diagnosed with bipolar disorder and over 22 000 with schizophrenia were matched with 220 000 healthy controls. The number who died in the study period was 3% in the latter group compared to 8% in the SMI group. After adjustment for age, gender, ethnicity, and level of deprivation of local area, individuals with SMI were twice as likely to die compared to the general population (figure 1).

Siddiqi et al (2017) explored the possible reasons for the difference in mortality rates, including:

i) A decrease in mortality in the general population in recent years, due to lifestyle changes (eg: improved diet; less smokers), while individuals with SMI have not improved. For example, national smoking cessation programmes have less impact on individuals with SMI (Hayes et al 2017).



(Data from Hayes et al 2017 table 2 p 178 and table 3 p179)

Figure 1 - Mortality rate (per 10 000 person-years-at-risk).

ii) Individuals with SMI have greater multi-morbidity (ie: a combination of physical and mental health conditions).

iii) Poorer healthcare services for SMI. "Although deinstitutionalisation in the UK has been a success in terms of integrating people into wider society, it has been argued that there is now too little support for people living with bipolar disorder and schizophrenia in the community, and this may be reflected in mortality rates" (Hayes et al 2017 p180).

iv) Individuals with SMI experience more deprivation, for instance, than the general population. "Research into the health effects of recession has suggested that consequences will be most severe for the poorest groups in society and will have the most impact where social safety-nets are lacking and public hardship grows rapidly. Given this, we could hypothesise that policies made in the UK following the 2008 financial crash (ie: austerity) have had the hardest impact on those with SMI" (Hayes et al 2017 p180).

Hayes et al (2017) also commented on the medication used: "Although it has been suggested that second-generation anti-psychotics reduce mortality overall, polypharmacy and higher drug dosages may increase it. Polypharmacy is increasingly common in bipolar disorder and may be contributing to the worsening CVD mortality compared with the general population in the 2010-2014 period" (p179).

1.9.3. Intellectual Property

In recent years the law has changed in different countries to allow the patenting of genetically engineered organisms, and so the growing importance of intellectual property rights (IPR) in the biomedical sciences (Biddle 2015).

It is argued, from a consequentialist viewpoint, that patents incentivise further research and development "that would otherwise not get done, or not get done as quickly, and thereby facilitate the development of useful knowledge... In facilitating the development of useful knowledge, IPRs thus quicken the transfer of research into the marketplace, which ultimately benefits society" (Biddle 2015 p151).

Biddle (2015) highlighted two negative consequences of such patenting:

a) The "tragedy of the anti-commons" (Heller and Eisenberg 1998) - When an "invention" (eg: gene fragment) is patented, its use is restricted to the IPR-holders, and this may limit development by non-IPR holders. "For example, the development of DNA diagnostic tests can require access to multiple patented DNA segments; obtaining access to these segments can be either so complex or so expensive that, in many cases, researchers will cease developing these tests and turn their attention elsewhere" (Biddle 2015 p152).

b) Pharmaceutical innovation - Drugs are expensive to create from beginning through to sales (eg: $800 million; Biddle 2015), and patents encourage this process.

Biddle (2015) challenged this point: "The claim that patents incentivise innovative pharmaceutical research is, however, questionable. Much of what the pharmaceutical industry produces are duplicative drugs — or 'me-too' drugs — that are sufficiently different from already-existing medicines to obtain a separate patent, but that have therapeutic effects that are the same as, or very similar to, drugs already on the market" (p154). Consequently, there is no incentive to develop innovative medicine, particularly needed in the developing world (eg: of 1393 drugs approved for sale between 1975 and 1999, 13 specifically treated tropical diseases; Biddle 2015).

1.9.4. Cognitive Enhancement

"Cognitive enhancement" involves boosting an individual's ability and performance of cognitive tasks and intelligence. This can be done in a variety of ways (BMA 2007):

i) Nutrition and supplements - eg: improving the intelligence of children via the diet of the mother during pregnancy.

ii) Pharmaceutical products - eg: healthy individuals using drugs that are prescribed for cognitive impairments (like "Ritalin" for Attention-Deficit Hyperactivity Disorder).

iii) Neurotechnology - eg: transcranial magnetic stimulation (TMS).

iv) Genetic selection.

The key ethical issues here relate to equity of opportunity to such means of enhancement (eg: cost), and the fairness of competition between enhancers and non-enhancers. Consequently, would non-enhancers feel coerced into using cognitive enhancements?

1.10. GLOBAL HEALTH ETHICS

"Global health ethics" refers to "ethical issues related to health at the global level", and involves issues that "spatially affect the world" (eg: global pandemics), and those that can only be solved by international collaboration (eg: global tobacco control). It also includes issues like global justice, health inequalities, and a commitment to reduce "global wrongs related to health" (Hunter and Dawson 2011).

Arras et al (2015b) pointed out that "reflecting the trend of globalisation more broadly, bioethics has become a global field as human health and the myriad factors that influence it increasingly transcend national borders" (p69). These factors include the transnational threat of infectious diseases or bioterrorism, the use of multi-country clinical trials, and the "global enterprise" of the healthcare industry "as patients from wealthy nations seek cheaper care in less wealthy countries seeking new ways of generating tourist revenue. Health care workers migrate for better-paid employment, often leaving significant gaps in the health systems of their home countries" (Arras et al 2015b p69).

The field of bioethics is often criticised because "it has focused largely on the problems of the wealthy and advantaged, and has devoted a shamefully small amount of space to health needs, concerns, and challenges in resource-poor settings" (Arras et al 2015b).

Benatar et al (2011) outlined the values that should underpin global health ethics:

- Respect for all human life;
- Human rights, responsibilities, and needs;
- Equity;
- Freedom from and freedom to;
- Solidarity;
- Democracy.

Hunter and Dawson (2011) provided arguments for and against global health ethics. The arguments for are based around global inequalities in health outcomes:

i) Beneficence - Talking generally, Singer (1972) argued that those in developed countries have a responsibility to help those in the developing countries. He proposed a principle of comparative moral imperative: "If it is in our power to do or prevent something bad from happening, without thereby sacrificing anything of comparable moral importance, we ought, morally, to do it" (quoted in Hunter and Dawson 2011).

ii) Justice and harm - Pogge (1989) argued from the point of negative duties (ie: do not harm). The "moral quality of our lives" (ie: those in rich and powerful countries), who have benefited from historical injustices (eg: colonial exploitation), is lowered if help is not given to the less powerful etc.

iii) Cosmopolitan justice - The Ancient Greek philosopher Diogenes is reported to have said, "I am a citizen of the world". Put simply, moral judgments and obligations are "universal and impartial in nature" (Hunter and Dawson 2011).

Arguments against global health ethics include:

a) Obligations of charity are imperfect duties - Kant made the distinction between a "perfect duty" that can be fulfilled all the time (eg: telling the truth), and an "imperfect duty" that is binding sometimes (eg: acting charitably) (Hunter and Dawson 2011).

b) There are no obligations to the distant needy - Kamm (2000) argued that it is easier to assess the need of those nearby, and so "duties to aid decrease as the needy become further away from us" (Hunter and Dawson 2011 p83).

c) Libertarian argument - This argument is "based around the ideal of freedom and the notion of the ownership of property. On this view, we only can have positive duties if we ourselves have caused harm. Whilst the suffering of others is unfortunate, it is not unfair. On this view, it would be good of us to intervene, but it is not, and cannot be compulsory to give, for that would violate our property ownership rights" (Hunter and Dawson 2011 p84).

"If wealthy countries engage in a practice or policy – or impose an institutional order – that foreseeably makes the health of those in poorer countries worse than it would otherwise be, specifically, making it harder than it would otherwise be to realise a human right to health or health care, then, Pogge (2005) argues, it is harming that population by creating this 'deficit' in human rights" (Daniels 2011 pp98-99). One example could be the "brain drain" of health personnel from low-income to high-income countries. For example, 60% of doctors trained in Ghana in the 1980s moved overseas, while nearly half of doctors posts were unfilled in that country in 2002 (Daniels 2011).

Another case is the practice of major pharmaceutical companies to spend more time, money, and effort on products for wealthier markets, and to maintain their monopoly control of intellectual property rights over certain drugs.

Buchanan and DeCamp (2011) pointed out: "Having reliable information about the nature and causes of global health problems, the capacity to ameliorate them, and a cosmopolitan ethical perspective that regards the need to ameliorate them as urgent is not sufficient, however. It is also necessary to move from the judgment that these problems must be addressed to concrete conclusions about who should do what to solve them. Call this the Problem of Concrete Responsibilities" (p119). One response to this is "duty dumping" -ie: "to ascribe obligations to individuals or institutions, holding them accountable for the adverse health effects of their policies, without offering adequate justification for why particular obligations should be imposed in particular individuals and institutions" (Buchanan and DeCamp 2011 pp119-120). "Duty dumping" is based on a "can implies ought" principle (Buchanan and DeCamp 2011).

For example, pharmaceutical companies and the production of anti-retroviral HIV/AIDS drugs at affordable prices. "The claim here is not just that it would be a good thing for drug companies to do this, nor simply that they have a moral obligation to do something to make their medicines more affordable to the worst off. Instead, those who criticize these private corporations often imply something much stronger: that the companies are acting wrongly if they do not do whatever it takes to make the drugs affordable to all who need them" (Buchanan and DeCamp 2011 p120).

However, "duty dumping" can produce an evasion of responsibility - ie: "to focus exclusively or even primarily on the supposed obligations of drug companies is to divert attention from a whole range of responsibilities for responding to the HIV/AIDS crisis" (Buchanan and DeCamp 2011 p120).

It is important to "correctly identify" who is reasonably responsible for health issues, and to recognise "responsibility gaps" where no currently existing organisation is responsible (Buchanan and DeCamp 2011).

1.10.1. Limited Resource Allocation

"Many new and expensive health care technologies have been developed over the last several decades. However, few countries have universal coverage of even basic health care. The health gap, meaning the difference between the potential improvements in population health that could be achieved with universal coverage of all the health technology that is currently available, and the more realistic health improvements that are actually affordable, gives rise to many difficult problems" (Johansson 2015 p84).

Healthcare expenditure in low-income countries is an average of 1/180th of that in high-income countries (Johansson 2015).

The health gap can be narrowed by improving health system efficiency, increasing health budgets, and/or setting priorities (Johansson 2015). However, low-income countries face issues with social determinants of health, the need for wider infrastructure expenditure (eg: more doctors are only useful if they have the roads on which to travel to rural patients), and the "three-tiered burden of disease" (communicable diseases, non-communicable diseases, and injuries) (Johansson 2015).

How to distribute scarce resources fairly? Four approaches can be distinguished (Johansson 2015):

i) Greater-benefit principle - Help as many people as possible for the lowest cost.

Thus, "health maximisation" is key (ie: "the population and individuals should attain the greatest achievable health level at the lowest cost possible"; Johansson 2015). But how to do that? One method is cost-effectiveness analysis (CEA), which ranks interventions based on efficiency, and is done by, for example, the World Health Organisation. CEA rankings have been criticised generally (eg: ethics) and specifically (eg:

methodology). One problem is the potential conflict between population and individuals health. For example, deworming children is an effective population health treatment (and more widely, improvement in school results), but at an individual level, children die from other diseases (Johansson 2015).

ii) Egalitarian principle - Distribute resources to produce equality between individuals.

But "given differences in individual choices, natural genetic profiles, health behaviour skills, and available technology, it can be technically impossible to equalise actual and potential health attainments" (Johansson 2015 p91). Furthermore, "egalitarianism appears to allow 'levelling down the better off groups as means to narrow the gap between groups... In health this would mean lowering the level of health for some members of the population to achieve equality, which many find intuitively unacceptable" (Johansson 2015 p91).

iii) Prioritarian principle - More resources to those who need more.

One issue is how to establish who are the worst off. "Are they the sickest patients, or the youngest, or the most disadvantaged?" (Johansson 2015).

iv) Sufficiency principle - Bring the worst off up to a certain threshold.

There is a problem of establishing what is an appropriate threshold.

Because of the difficulties in priority setting, Daniels and Sahn (2002) proposed the "accountability for reasonableness" theory, which outlines four principles for a fair health care priority setting process (Johansson 2015):

- Publicity condition - A transparent process involving the public;
- Relevance condition - Relevant criteria for decision-making should be used;
- Revisability and appeals condition - Decisions can be revised depending on new evidence;
- Enforcement and regulation condition - Mechanisms exist for the other three principles to be met.

1.10.2. Duty of Health Workers

In the USA there are around 2 doctors per 1000 population compared to 0.002 in Malawi, say (Eyal and Hurst 2015). There are further differences in poorer countries between remote, rural areas (and public clinics) and cities (and the private sector). Do health workers have a duty to work in "critically underserved areas"?

Eyal and Hurst (2015) explored the issues related to this aspect of resource allocation in healthcare, including:

i) Rich countries' responsibility - Market competition encourages healthcare workers from poorer countries to move to richer ones. So, "even when active harm takes place, when it is the result of market competition, commonsense morality often holds that no wrong was done. For example, market competitors are not wronging me by opening a nearby shop that drives mine out of business — although that actively harms me" (Eyal and Hurst 2015 p116). Then there is the agency of the health worker.

ii) Interventions at home - One possibility is the "Bhagwati" tax (eg: Bhagwati and Dellalfar 1973) on migrant workers' foreign income imposed by the source country. Though there are practical problems with enforcement and collection (Eyal and Hurst 2015).

The local medical school could be involved during training. "For example, is it morally permissible for medical school faculty to let students understand that they would greatly disappoint them unless they work with the underserved — which might be considered emotional blackmail or an implicit threat to breach entitlements to future support? Is it permissible for schools intentionally not to teach some essential aspects of care in rich countries precisely in order to delimit graduates' 'marketability' abroad...? Is it permissible for schools to admit preferentially applicants who are relatively likely to choose later to work in underserved areas — say, residents of underserved rural areas..., or applicants with sub-optimal academic performance — who are more likely to work in such areas than the academically best...? Is it permissible for schools to offer applicants scholarships conditional on a very long commitment to later rural service..." (Eyal and Hurst 2015 pp117-118).

iii) Compensation paid by destination countries - There are practical problems related to who should pay it (the government, say), who should receive it, and how much to pay.

iv) Moral duty on health workers to work in underserved areas:

a) Assistance - eg: from a utilitarian standpoint, helping the underserved helps more people with finite resources; versus: "Work in medically underserved areas will often limit physicians' life choices, comfort, professional development options, safety, and access to quality health care and education, for themselves and for their families" (Eyal and Hurst 2015 p121).

b) Reciprocity - A special duty to work in underserved areas as a "repayment" for an elite education in a country with generally poor educational levels. But "if social responsibility is merely a matter of paying off debts incurred by individuals, those receiving private training are morally off the hook to their communities" (Eyal and Hurst 2015 p121).

c) A professional obligation - Certain professions, like firefighters, involve a professional obligation to put themselves at risk. But, for doctors, treating highly infectious patients is different to working in an underserved areas. "We can therefore accept that duties to treat one's patients are very stringent while denying that the duty to make them into one’s patients is remotely as stringent" (Eyal and Hurst 2015 p122).

d) Coercing doctors to work in underserved areas - "For example, forcing health workers to work in specific underserved areas for life would surely be wrong; indeed, it would constitute outright enslavement. It would grossly violate any freedoms of movement and occupation of these workers, exposing them to exploitation and arbitrary power in their workplaces. It would defeat virtually any personal project that these health workers might have formed earlier in life, and would probably alienate them both from the health care system and their own identities, further decreasing already low workforce morale" (Eyal and Hurst 2015 p125).

1.10.3. Medical Tourism

Medical tourism (MT) involves the travel of patients to another country for treatment, and, for example, six million US patients travelled abroad for treatment in 2010 (Cohen 2015).

MT can be categorised in two ways (Cohen 2015):

a) Patients - uninsured (ie: pay for themselves); insurer-prompted/funded; government-prompted/funded.

b) Legality - illegal services in both home and destination countries (eg: organ purchase); "circumvention tourism" (illegal services in home country) (eg: fertility services) [36]; legal services in both countries but cheaper abroad.

Concentrating on the latter, Cohen (2015) outlined some of the issues, including:

i) Quality - "Poor quality of care may harm not only tourist patients – the patient protective concern – but it may also lead to substantial externalities. Numerous authors have worried about the propensity for medical tourists to bring back anti-biotic superbugs... Moreover, poorly performed surgeries will often require costly and extensive follow-up care, which in universal health care systems will be paid for by fellow taxpayers and even in the U.S. will indirectly increase costs through uncompensated care pools for the uninsured" (Cohen 2015 p102).

ii) Liability - Who is responsible if there is medical error or malpractice, particularly, say, if the MT is insurer-prompted?

iii) Effect on health care access in destination country - "Even as medical tourism may be a boon for home country patients, it threatens to make things worse for the poor in the destination country. From their perspective, medical tourism presents a host of cruel ironies. Vast medico-industrial complexes replete with the newest technologies provide wealthy medical tourists hip replacements and facelifts, while large swaths of the population die from malaria, AIDS, and a lack of clean water" (Cohen 2015 p103).

iv) Obligations of follow-up - Who is responsible for this?

1.10.4. One Health

Many of the newly emerging human infectious diseases originate in animals. "One Health" is a response that "aims to drive improvements in human, animal and ecological health through an holistic approach" (Cunningham et al 2017 p1).

Cunningham et al (2017) noted that this "integrated, holistic, all-encompassing approach has much theoretical and policy appeal. But how can it work in practice? What are its weaknesses? What are the approaches, methods,

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[36] A key issue here is how far can the home country extend its prohibitions to its citizens abroad (known as "prescriptive jurisdiction"). Another issue is how to balance patient autonomy/choice (to seek such services) with patient protection (ie: the authorities define the services as illegal for a reason) (Cohen 2015).

organisational and policy arrangements that will make a One Health approach work in a changing world, particularly in Africa and other resource-limited regions where research and response capacities are limited? How can a One Health approach address, rather than exacerbate, issues of poverty and marginalisation in settings where structural inequalities and deep vulnerabilities make exposure to disease a recurrent feature of daily life?" (p2).

Cunningham et al (2017) outlined four key themes related to One Health, particularly in Africa:

i) The complex interactions linking ecosystems, diseases and poverty - eg: changing land use in Kenya and consequently changes in mosquito populations that carry Rift Valley fever has led to different groups being affected (Leach et al 2017).

"Protecting ecosystems and biodiversity, therefore, can contribute towards protecting human health. Certain wildlife species are a major focus for disease emergence, with bats in particular being significant reservoirs of novel, untreatable and often-fatal zoonoses. Bats are also keystone species for ecosystem function through insectivory, fruit-tree pollination and seed dispersal. Biodiversity, therefore, is an ecosystem service through the regulation of disease dynamics and emergence. Ecosystem drivers are key to this, with land use and other environmental change, as well as changing patterns of wildlife trade and consumption, being important areas for policy intervention" (Cunningham et al 2017 p3).

ii) Social and political dimensions - eg: more culturally informed approaches to interventions, but also an awareness of globalisation. "Some traditional behaviours, such as bat hunting, which might facilitate spillover, may have been relatively safe in the past, but now might present unacceptable risks. A local spillover event now has a greater chance of resulting in international consequences, even if that occurrence is of low probability. When considering One Health, we need to take account of a fast-changing world" (Cunningham et al 2017 p4).

iii) The use of modelling to understand the world and to predict the future.

iv) How to ensure that One Health genuinely benefits the most affected populations? For example, Cunningham et al (2017) suggested: "Asking 'whose world?' and 'whose health?' policy is aimed at focuses attention on gender dynamics and wider social inequalities, as well as the cultural and social dimensions of disease response and health-seeking behaviours" (p5).

1.10.5. Climate Change

The "Lancet Countdown" is a project to track the changes in health as a consequence of climate change. It began in 2009 (Watts et al 2017a).

Three main areas of impact highlighted include:

i) Climate hazards - eg: an excess of over 1000 deaths from the 2010 heatwave in Russia (Revitch and Shaposhaikov 2012).

An increase in weather-related disasters per year between 2007 and 2016, where such a disaster is defined as ten or more people killed, 100 or more people affected, and/or a state of emergency declared (Watts et al 2017b).

ii) Interventions to minimise the health impacts of climate change.

iii) Health benefits of climate change mitigation - eg: reduced air pollution from clean energy alternatives to coal.

Watts et al (2017b) emphasised that "impacts of climate change are disproportionately affecting the health of vulnerable populations and people in low-income and middle-income countries (LMICs). By undermining the social and environmental determinants that underpin good health, climate change exacerbates social, economic, and demographic inequalities, with the impacts eventually felt by all populations" (p1).

Human health is affected by climate change through three pathways (Watts et al 2017b):

a) Direct - eg: increased temperature. In 2015, it was estimated that 175 million additional people were exposed to heatwaves, which are defined as "more than three days during which the temperature is greater than the 99th percentile of the historical mimima" (Watts et al 2017b). High night-time temperatures are an issue as individuals are unable to recuperate from the hot days.

Labour capacity is declining because of the problem of working outdoors in higher temperatures (Watts et al 2017b).

b) Eco-system mediated - eg: changes in vector-borne diseases, like malaria.

The annual number of cases of dengue fever have doubled every decade since 1990 (Watts et al 2017b).

c) Human institution-mediated - eg: hunger from crop failure (every 1°C increase reduces wheat production by 6%; Watts et al 2017b).

Powers (2015) highlighted two climate change-related responsibilities - mitigation (ie: to slow the accumulation of greenhouse gases), and adaptation (ie: modifying human behaviour to avoid the harmful consequences of climate change).

The moral responsibility to act is based in human rights - ie: rights "that persons have in virtue of their humanity, and not because of the nation or state into which they were born or any actions that they have performed" (Caney 2010 quoted in Powers 2015). The harms that will come from climate change will violate the human rights. This is the "cosmopolitan conception of human rights", and "it grounds universal duties with respect to health, life, and subsistence in the vital needs of others. The basis upon which the specific moral responsibility for addressing climate change is assigned is not tied to history, or to any active harming of the interests of others, but to the ability to pay" (Powers 2015 p141).

Continuing on: "Climate change duties, then, on the cosmopolitan account, do not differ in their rationale from duties that would arise if an asteroid were hurtling toward a vulnerable country. The existence of profound human need and the ability of others to meet it are jointly sufficient to trigger duties that correspond to human rights claims" (Powers 2015 p141).

1.11. MENTAL HEALTH AND FEMINIST ETHICS

Thomas and Longden (2013) noted that "a tension exists between understanding madness through its socio-cultural and interpersonal contexts, and current scientific accounts of madness and the technological interventions derived from this" (p119). In other words, a difference between the views of sufferers and service users, and psychiatrists and mental health professionals.

A technological paradigm (or biomedical model) sees mental health problems as derived from "disordered mechanism", which are independent of social circumstances, and need to be treated by "interventions based in the technological paradigm" (eg: drugs) (Thomas and Longden 2013). More recently, the traumagenic neurodevelopmental model (Reed et al 2001) proposed that trauma on the developing brain is the basis of psychosis. This is a variation on the technological paradigm that accepts the role of the environment.

Thomas and Longden (2013) argued for a feminist-based approach to mental health that prioritises narrative. "Just as the self can be undone and dehumanised by brutality and isolation, it can be renewed and remade through solidarity and connection with others through narrative" (Thomas and Longden 2013 p122).

As an example, Brison (2002) described her experience of a near-fatal sexual assault. "The communicative act of bearing witness to traumatic events not only transforms traumatic memories into narratives that can... be integrated into the survivor's sense of self and view of the world, but it also reintegrates the survivor into a community, re-establishing bonds of trust and faith in others" (Brison 2002 quoted in Thomas and Longden 2013). This deals with "two aspects of narrative that are pertinent to recovery in madness, and which are implicit in our argument: narrative's reconstructive function, and its role in the moral struggle for justice through social networks, what Herman [1992] characterises as 'the restorative power of truth-telling'... and Dillon [2011] as 'an internal process of truth and reconciliation'..." (Thomas and Longden 2013 p123).

Feminist thinkers have challenged the emphasis on logic, reason, and abstract principles and rules (what Noddings (1986) called the "language of the father"). Gilligan (1982), for example, talks of an "injunctive to care' as a moral responsibility, manifest as a responsibility to bear witness to, and attempt to alleviate the 'real and recognisable trouble' of the world" (Thomas and Longden 2013 pp120-121).

Thomas and Longden (2013) outlined four principles from feminist theory:

i) Concern with contexts rather than universal, general principles;

ii) "Embodied practice" - a concern with physical sensation and emotions as experienced in embodiment rather than feelingless/emotionless logic;

iii) Caring as a "fundamental existential feature of human life" (Thomas and Longden 2013);

iv) The relational nature of care between the "one-caring" and the "cared-for" (Noddings 2002).

The "Movement for Global Mental Health" (MGMH) [37] has highlighted the disproportionate burden of mental ill-health globally experienced by women (particularly poorer ones) (eg: depression twice as likely as for men) (Burgess 2016).

"However, behind the proliferating evidence advocating the best response to women's mental health needs in low and middle income settings, sits the uncomfortable history of the field of psychiatry's

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[37] See http://www.globalmentalhealth.org.

engagement with women" (Burgess 2016 p80) [38]. For example, the "hysterical woman" of the early 20th century was loud, lewd, and with an interest in sex, which was the opposite of the "normal woman" (Burgess 2016). This goes with the medicalisation of women's lives (eg: pregnancy, menopause), which "links problems to individuals rather than environments, obscuring attention to contexts that drive distress" (Burgess 2016). Ultimately, women are positioned as "the objects of the medical gaze, rather than subjects and partners within services" (Burgess 2016).

Speed (2006) noted that mental health service users in Ireland who perceived themselves as "patients" were less active in doctor-patient encounters than individuals who aligned with "survivor" discourses.

Burgess's (2016) content analysis of six studies linked to the MGMH found that "a silencing of women's voices that occurs through the use of methods of data collection, engagement with women that reduces the complexity of their social realities to biomedical conditions, and the problematic positioning of women as objects of treatment rather than autonomous subjects".

For example, one of the studies (Pereira et al 2007) involved interviews with 28 women with depression in India. One interviewee said: "All my tensions stated then only, when I started having only girls and when the third daughter was born, I was thinking what to do with all the girls? How will I manage?" (quoted in Burgess 2016). The authors of the study commented that the "narratives we have elicited display that somatic complaints are central to the conceptualisation of depressive disorders" (Pereira et al 2007 quoted in Burgess 2016). Burgess 92016) argued that this comment ignored the social situation where sons are highly valued, and the "authors effectively re-interpret their subjects through the voice of the expert. In doing so, the use of context rich methods with women by the MGMH does not achieve the desired hope of illuminating the subject, her experience of her world and how this establishes distress. Instead, individual bodies and minds experiencing psychological distress are reworked as the focal point. In light of these practices, what choices are available to women who want to tackle problematic worlds?" (p94).

Burgess (2016) concluded: "In contrast to earlier accounts of silencing in line with societal norms about women's inferiority to men, silencing in this instance occurs through the distance of women’s accounts from existing evidence and expertise. As such, within the patient-practitioner dialogue, women's accounts are overridden by the expertise of the practitioner, who

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[38] Millett (1970), for example, saw psychiatry as an agent of patriarchy.

seeks to provide help within their own framework of understanding of the problem" (p100).

2. PSYCHOLOGY OF MORALITY

Using ecological momentary assessment, where individuals report what they are doing at times contacted, Hofmann et al (2004) found that nearly one-third of reports involved moral judgments and behaviour, either "being involved in the act either as an agent or a target, witnessing it, or learning about it from others" (Wojciszke et al 2015 p50).

Talking about unethical behaviour [39], Irlenbusch and Villeval (2015) commented that "even when there is no risk of detection and no sanction there is a huge heterogeneity in the individuals' decision to act dishonestly" (p87). Gibson et al (2013) proposed a type-based explanation, which distinguished individuals as "consequentialists (who care only about outcomes) and non-consequentialists (who – irrespective of the consequences – feel resistance to engage in actions that would violate moral values, for example who feel a pure lying aversion" (Irlenbusch and Villeval 2015 p88).

This idea challenges the traditional "economic" model, originally proposed by in relation to crime by Becker (1968), which sees individuals as rational decision-makers who weight up benefits and risks/costs before acting. Another challenge to the "economic" model is "incomplete dishonesty" (or partial cheating) (Irlenbusch and Villeval 2015).

Given the opportunity to lie about numbers of dice rolls, the majority of individuals cheat on some occasions only in order to win, while a small number of individuals never cheat and a small number cheat every time (Fischbacher and Follmi-Hewsi 2013). Maintaining a self-concept of honesty is important, including self-justifications for cheating (eg: others would lie in this situation), and individuals engage in "moral balancing" (ie: behaving generously after cheating) (Irlenbusch and Villeval 2015).

However, this does not stop individuals exploiting information asymmetry (ie: one person knows more than another) [40]. Balafoutas et al (2013) (appendix K) showed this in a field experiment on taxi rides. Where the

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[39] This can be defined as "acts that have harmful effects on others and are 'either illegal or immorally unacceptable to the larger community' [Jones 1991]" (Gino 2015 p107).

[40] Darby and Karni (1973) referred to "credence goods" where consumers are unable to know the quality of goods provided by sellers.

passenger presented themselves as unfamiliar with the area, there were longer detours of journey than when the passenger claimed to be a local inhabitant.

While in sharing games and information asymmetry, there is a difference between explicit deception (making untruthful statements) and implicit deception (not revealing certain information), with the former linked to greater deception (Irlenbusch and Villeval 2015).

There have been a number of studies on unethical behaviour in business in recent years, and the main findings include (Irlenbusch and Villeval 2015):

- A moral appeal for honesty is more effective than a legal reminder;

- Market interactions can "erode moral values";

- Priming professional identity influences moral behaviour depending on the culture of the organisation.

Pierce and Balasubramanian (2015) summarised recent examples of work on dishonesty in "natural settings" under the following headings:

a) Social processes - These "selectively increase honesty".

Example of research: Field experiment. Azar et al (2013) manipulated the excessive change given in Israeli restaurants, and found little difference in returning it by an individual alone or in a group, but regular patrons were more honest than one-off customers [41].

b) Fairness, equity and social comparison - Perceived unfairness and inequity compared to others can lead to more unethical behaviour.

Example of research: Field experiment. Greenberg (1990) found increased employee theft after a 15% pay decrease in two or three factories.

c) Moral reminders - These often increase honesty in disclosures.

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[41] In a restaurant in a city in Israel between March and September 2011, the researchers arranged for 192 customers who paid in cash to receive excessive change of either 10 or 40 shekels ($10 US dollars). One-third of the customers returned the excessive change overall, with half of those receiving the forty shekels extra doing so (compared to 15% of the ten shekels group). The researchers admitted that "it is hard to know from this result if it happens because those who received 40 extra shekels wanted more to be honest, or because those who received 10 extra shekels often did not notice it" (Azar et al 2013 p225).

Example of research: Field experiment. Shu et al (2012) varied the position for customers' signatures on insurance forms, and signatures at the top of the page (compared to the bottom) produced disclosures of more mileage on car insurance documents.

d) Culture - This influences dishonest behaviour.

Example of research: Correlational study. Fisman and Miguel (2007) correlated the level of national corruption with unpaid parking tickets by diplomats at the United Nations in Manhattan between 1997 and 2005 [42].

e) Professionalism - Public expectations of honesty by a certain profession is important.

f) Incentives and control - External incentives are important, but "psychological mechanisms may make monitoring counter-productive in reducing dishonesty (Pierce and Balasubramanian 2015 p71).

Example of research: Field experiment. Bernstein (2012) and factory productivity monitoring.

Wiltermuth et al (2015) stated: "Although people lie in as many as a fifth of their interactions, most of their statements are true. People default to honesty for many reasons: honesty can make life less cognitively depleting, it can lower the risk of social sanctions, and it can allow people to see themselves as morally virtuous" (p20). So, there are obvious negative consequences to lying, but Wiltermuth et al (2015) argued also non-obvious negative (and positive) consequences.

They distinguished between "pro-social" or "altruistic" lies to spare another's feelings, say, and "anti-social" lies to deceive another person. "Telling pro-social lies may therefore send a useful signal both to the self and to other people that the deceiver cares about acting benevolently and compassionately. In contrast, anti-social lies may degrade perceptions of the liar’s intentions towards others and his or her general trustworthiness" (Wiltermuth et al 2015 p20).

Iniguez et al (2014), for instance, found that pro-social liars had larger, more integrated, social networks, and anti-social liars had smaller, fragmented

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[42] Gachter and Schulz (2016) found that national corruption levels shaped the citizens' personal moral behaviour. The researchers developed a measure of national corruption (prevalence of rule violations; PRV) based on political fraud, tax evasion, and everyday corruption (eg: bribes). This was applied to 23 countries, from which 2500 participants rolled dice to gain a sum of money (but only the roller saw the result). Individuals from high PRV countries (eg: Georgia, Kenya) claimed more wins than individuals from low PRV countries (eg: Sweden, UK) (Makin 2017).

networks. But pro-social lies are not always positive - they may "reduce people's abilities to make accurate forecasts of their likelihood of success. If a potential entrepreneur contemplates starting a business and solicits advice from social contacts, those social contacts may decide out of kindness to express more enthusiasm about the idea than they really feel. If so, their advice may bias the entrepreneur to be more likely to start the business than they otherwise would" (Wiltermuth et al 2015 p21).

Wiltermuth et al (2015) argued that anti-social lies for material gain can set the norm that self-interest over honesty is an acceptable way to behave, and increases the likelihood that others will behave unethically.

On the positive side, Gino and Wiltermuth (2014) showed in five experiments that lying/cheating can lead to greater creativity than honesty (appendix L). "When people behave dishonestly they break out of a rule-following mind-set. Doing so leaves them better able to break rules within a domain to create new connections between previously unrelated cognitive elements, and ultimately construct more creative ideas" (Wiltermuth et al 2015 p22).

The trolley problem is a commonly used test of moral judgment. There is a runaway trolleybus (train/tram) which will kill five people on the line unless a lever is pulled which diverts the trolley to another line that kills one person. The majority of listeners recommend pulling the lower (ie: kill one person instead of five - a utilitarian choice). In another version of the dilemma, the trolley is speeding towards five people, but can be stopped by pushing a large man off a bridge in front of the vehicle. The equation is still kill one person to save five, but most listeners choose not to push the individual off the bridge (a deontological choice - ie: it is wrong to kill even for the greater good) (Wojciszke et al 2015).

Shenhav and Greene (2014) explained this behaviour with a double-process model. Deontological judgments are fast and automatic decisions based on emotions (ie: what feels right - intuition), while utilitarian-based decisions are slower cognitive processes (ie: more rational). "Deontological judgments become more frequent when people are under time pressure or lack working memory capacity, when they empathise with victims or imagine their harms vividly. Utilitarian judgments become more frequent when people have less contact with the victims, prefer a deliberate thinking style or have been primed with the rational mode of judgments" (Wojciszke et al 2015 p50).

Graham et al (2013) added three other factors to moral decision-making - group loyalty, authority, and purity/sanctity. Personal or egocentric biases (ie: self-interest) are also involved (Wojciszke et al 2015).

However, Haidt (2001) argued that moral thinking is a rationalisation of gut feeling responses after the event.

"Although philosophers (and some psychologists) ask the question 'is this act right or wrong?' most lay persons (and other psychologists) may be more interested in another question 'is this person good or bad?'" (Wojciszke et al 2015 p51). Thus, individuals are "naive virtue theorists who judge not only acts but also moral characters of their perpetrators" (Wojciszke et al 2015 p52).

2.1. DISHONESTY OF HONEST PEOPLE

Gino (2015) introduced a dilemma: "Cheating, deception, organisational misconduct, and many other forms of unethical behaviour are among the greatest challenges in today's society. As regularly highlighted by the media, extreme cases and costly scams are common. Yet, even more frequent and pervasive are cases of 'ordinary' unethical behaviour – unethical actions committed by people who value and care about morality but behave unethically when faced with an opportunity to cheat" (p107). In other words, "good people" doing "bad things" (eg: cheating on taxes; deceiving in personal relationships; lying; employee theft [43]).

Gino (2015) noted two streams of research, which, while being different, do share two assumptions - "The first one is that morality is dynamic and malleable, rather than being a stable trait that characterises individuals. That is, individuals do not behave consistently across different situations, even when they strongly value morality or when they see being an ethical person as central to their self-concept. The second assumption is that most of the unethical behaviour we observe in society is the result of the actions of numerous individuals who, although they value morality and want to be seen as ethical people, regularly fail to resist the temptation to act dishonestly or even fail to recognise that there is a moral issue at stake in the decision they are making" (Gino 2015 pp107-108) (appendix M).

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[43] Employee theft is estimated at $52 billion per year in the USA; Gino 2015).

i) Intentional unethical behaviour - Individuals commit unethical behaviour because of social and situational factors, and they are fairly aware that it is wrong.

The classic examples in psychology of this behaviour are Milgram's (1974) experiments on obedience to authority, and the Stanford Prison Simulation (Haney et al 1973).

More recently, Mazar et al (2008) have used a paradigm where individuals can cheat to win or gain a reward (usually by lying about their performance on an apparently unobserved task) [44]. The main finding is that "people lie when it pays, but only to the extent that they can do so without violating their perception of themselves as an honest person" (Gino 2015 p109).

Subsequent work has shown that individuals behave more unethically when there is greater opportunity to justify their behaviour, and they are influenced by the explicit and implicit norms of the situation (eg: amount of rubbish on the ground and littering behaviour) (Gino 2015). Gino and Galinsky (2012), for example, found that sharing a birthday with a cheater encourages cheating (appendix N). "This is because people perceive questionable behaviours exhibited by in-group members or people similar to them to be more acceptable than those exhibited by out-group members or people they view as dissimilar" (Gino 2015 p109).

Intentional harm is viewed as worse than accidental harm (Cushman 2015) [45]. Cushman (2015) summed up how this works in practice: "judgments of moral character depend mostly upon a person's desires, pro-social or anti-social. Judgments of moral wrongness depend upon a person's actions and the beliefs and desires that cause those actions. Finally, judgments of punishment blame depend not only on actions and mental states, but also the outcomes caused by their actions" (p99). So, there is a "dissociation between the moral judgments of a person's character and those of their actions" (Cushman 2015 p98).

In relation to the former, this is important in who to trust in social interactions, known as "partner choice", while the judgment of actions (and the consequent punishment appropriate) is "partner control" (Cushman 2015).

Graham (2011) used the term "moral foundations" in distinguishing different types of moral violations. For

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[44] Mazar et al (2008) noted that individuals "behave dishonestly enough to profit, but honestly enough to delude themselves of their own integrity. A little bit of dishonesty gives a taste of profit without spoiling a positive self-view" (p633). This "band of acceptable dishonesty" involves the psychological mechanisms of categorisation malleability (eg: flexibility about the category of "honest behaviours"), and inattention to moral standards.

[45] Baez et al (2017) reported an exception in a study of terrorists (appendix O).

example, the "harm" foundation relates to assessing if unjustified suffering was caused to another individual, while the "purity" foundation covers moral violations that corrupt the sacred. Cushman (2015) observed: "Recent research shows that harm and purity violations are identified based on different features of intentional action. Specifically, harm violations are identified more by harmful intent than purity violations are by impure intent. For example, people tend to judge that you have not acted wrongly if you accidentally serve a person a dish with an ingredient that they are severely allergic to. However, they tend to judge that you have acted quite wrongly if you accidentally sleep with a person you did not know was your long-lost sister. Harm somebody accidentally and you are mostly off the hook; defile yourself accidentally, and you are very much on it" (p99).

ii) Unintentional unethical behaviour (or "boundedly ethical"; Banaji et al 2003) - This is "people's tendency to engage in unethical action without even knowing that they are doing so" (Gino 2015 p107) (eg: overclaiming credit for group work; implicit discrimination; favouring ingroup members). Sezer et al (2015) pointed out that individuals "do not always recognise the ethical dimensions of their decisions because they are subject to systematic and predictable ethical blind spots" (p77).

Sezer et al (2015) outlined three sources of "ethical blind spots":

a) Implicit biases (table 3) - "For example, individuals may not deliberately discriminate against others, but when they offer preferential treatment to those they like or know personally, the outcome may be unconscious discrimination against those who lack such ties" (Sezer et al 2015 p77).

But, at the same time, individuals maintain an "illusion of objectivity" (Chugh et al 2005) (ie: that they are more objective than others) (Sezer et al 2015).

There is also the "slippery slope effect" (Gino and Bazerman 2009) where misconduct that happens gradually is noticed less than if it is sudden.

b) Temporal lens - When making decisions about the future, individuals assume that they will behave as they ought and base current ethical decisions on that assumption. These "forecasting errors" emerge from the tension between the "want self" (immediate gratification) [46] and the "should self" (ethical side) (Bazerman et al

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[46] It is believed that children are more interested in immediate gratification today, but this is not necessarily so (appendix P).

- Greenwald and Banaji (1995) highlighted the importance of "implicit social cognition", particularly seen in "implicit bias" (IB) [47]. Banaji et al (2015) summarised the key points about IB from subsequent research - it "(a) is pervasive, (b) is dissociated from conscious intent and values, (c) reflects preferences for one’s own group or dominant groups in society, and (d) influences behaviour" (p184).

- But how to attribute responsibility when there is IB? This was recently addressed in "Implicit Bias and Philosophy" (Brownstein and Saul 2016). The general conclusions were that "even though harm due to implicit bias may be unintended, responsibility for remedying the harm lies firmly with the agent. The arguments to support this position range from comparisons to other situations of negligence, the distinction between guilt (not necessary) and reparations (necessary), to the conjecture that as evidence of implicit bias has become both scientifically clear and easily available in the public domain, it is one's responsibility to be aware of it and act on it" (Banaji et al 2015 p184).

Table 3 - Implicit bias [48].

1998). "Before making a decision, people predict they will behave in accordance with their 'should self', a choice that supports their moral self-view. However, when it is time to make a decision, the 'want self' becomes dominant: the immediate gains from the unethical act become much more salient in the present, while the ethical implications fade away" (Sezer et al 2015 p78).

After the unethical decisions comes "psychological cleansing" (Shu et al 2011), where individuals adapt their views to fit their behaviour. For example, after cheating, individuals report that cheating is more acceptable than individuals who did not cheat.

c) Failure to notice others' unethical behaviour - This is particularly so if the individual benefits from the unethical behaviour (Sezer et al 2015).

Though goal-setting (ie: an expected performance) can be positively motivating, recent research suggests that it may also lead to unethical behaviour (Ordonez and Welsh 2015).

For example, Moore et al (2014 quoted in Ordonez and Welsh 2015) found that students overstated their performance on an anagram-solving task when set

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[47] Greenwald and Banaji (1995) defined implicit attitudes as "introspectively unidentified (or inaccurately identified) traces of past experience that mediate favourable or unfavourable feelings, thoughts, or action toward social objects" (quoted in Brunel et al 2004).

[48] The Implicit Association Test (IAT) (Greenwald et al 1998) was developed because individuals are "sometimes unable or unwilling to reveal their opinions" (Brunel et al 2004). There are issues about the validity and reliability of the IAT. In the former case, whether the IAT correlates with explicit measures of attitudes. For example, in a study of computer brands (Windows and Mac), Brunel et al (2004) found a significant correlation between explicit and implicit attitudes (r = +0.50).

challenging goals as opposed to no targets.

"The presence of goals has been shown to create threat of failure and stress... Goals can lead to more risk taking, reduce co-operation and increase deception, and escalation of commitment to failing projects that can lead to concealing negative outcome information" (Ordonez and Welsh 2015 p93).

Focus on the goals directs attention away from "ethical recognition" (awareness of the ethics of behaviour), and increases moral disengagement (eg: rationalisation of unethical behaviour to achieve goals) (Barsky 2008).

In terms of organisations, "Jensen [2003] warned that the use of all-or-nothing goals, in which a reward is given only if the goal is met, would increase lying and cheating more than rewarding performance using a linear compensation system. Managers who are close to attaining the target may go to great lengths to achieve it, often through questionable tactics such as realising sales revenues early or hiding expenses, and are rewarded for doing so even though the company as a whole may be worse off" (Ordonez and Welsh 2015 p94).

Heath et al (1999) described individuals seeking a goal as in the "domain of losses" until the goal is reached ("domain of goals"). The Prospect Theory (Kahneman and Tversky 1979) predicts that individuals in the domain of losses make riskier decisions than in the domain of gains. Cheating is an example of a risky behaviour (Ordonez and Welsh 2015).

2.2. FOCUS ON SELF

Tenbrunsel and Chugh (2015) distinguished two themes in recent research on "behavioural ethics" (psychology of morality) - (i) focus on the self, and (ii) the difference between intentional and unintentional unethical behaviour.

In the first case, "our ethical behaviour is closely tied to how we view ourselves: how we view ourselves shapes our ethical behaviour and our ethical behaviour shapes how we view ourselves" (Tenbrunsel and Chugh 2015 p205). Shu and Effron (2015) put it this way: "not everyone needs to feel like a saint; they just want to avoid feeling like a sinner" (quoted in Tenbrunsel and Chugh 2015). So, the self is central to ethical decision-making and behaviour.

An element of this is "self-threat", which is "anything that makes it difficult to retain a positive self-view" (Tenbrunsel and Chugh 2015). Cheating is usually a self-threat, except in a situation of financial deprivation as "behaviour that would have once been a self-threat becomes acceptable, allowing one's self-view to remain intact" (Tenbrunsel and Chugh 2015 p205) [49].

However, "others can make us more moral" (Tenbrunsel and Chugh 2015). For example, "moral identification" ("belongingness with an organisation that has ethical traits"; Tenbrunsel and Chugh 2015) is associated with less unethical behaviour (May et al 2015) [50]. There is also "duty orientation" - the "individual's volition orientation to loyally serve and faithfully support other members of the group, to strive and sacrifice to accomplish the tasks and missions of the group and to honour its codes and principles" (Hannah et al 2014 quoted in Tenbrunsel and Chugh 2015).

Putting these ideas together, "behaviour is best understood by Homo duplex [Kluver et al 2014], which emphasises that individuals live at two levels, one focusing on the emotions and goals of the individual and the other, higher level, focusing on emotions and goals that connect individuals to groups" (Tenbrunsel and Chugh 2015 p207).

Concerning intentional and unintentional unethical behaviour, Pascual et al (2013) reviewed neuroscientific studies of rational and intuitive cognitive measures, and concluded that "morality is supported not by a single brain circuitry or structure, but by several circuits overlapping with other complex processes" (quoted in Tenbrunsel and Chugh 2015).

2.3. ETHICAL DISSONANCE AND SELF-DECEPTION

The inconsistency between the moral self-image and unethical behaviour produces "ethical dissonance", which Barkan et al (2015) divided into two types - anticipated (before the wrongdoing as the individual thinks about it) and experienced (after the wrongdoing).

Barkan et al (2015) listed justifications used to cope with anticipated ethical dissonance (pre-violation justifications), including:

a) "Cash substitutions" - Taking money is stealing, but taking goods is less clear-cut. For example, Ariely (2012) left cans of cola in a communal refrigerator in student housing or the equivalent amount of money. The former disappeared within 72 hours, but not the latter.

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[49] "Low wages themselves are not enough to promote dishonesty but rather it is only when the higher wages of others is made salient that cheating occurs" (Tenbrunsel and Chugh 2015 p207).

[50] This links with the idea of the "bad barrel" (as opposed to the "bad apple" (ie: the situation as the cause of unethical behaviour (Tenbrunsel and Chugh 2015).

b) "Shuffling and stretching the truth" - Reporting "sorta" truth is ambiguous compared to direct lying. For example, participants were asked about the presentation of the mileage of 60 000 on a used car which was actually over 70 000, or presented as between 60-90 000 miles. Only the former was perceived as a lie (Schweitzer et al 2002).

c) "Self-serving altruism" (or "Robin Hood logic") - Unethical behaviour that benefits another person can be justified as ethical. Participants have been found to lie more about their performance on a task if they and another person benefit more than alone (Barkan et al 2015).

d) "Moral self-licensing" (appendix Q) - Past good deeds earn "moral credit" for future wrongdoing. For example, individuals who have purchased environmentally friendly products in the past are more likely to lie later than non-purchasers (Mazar and Zhong 2010).

Barkan et al (2015) outlined justifications for reducing experienced ethical dissonance (post-violation justification), including:

i) "Cleansing" - eg: self-punish or self-inflicted pain.

ii) "Confession" - ie: admitting to the wrongdoing. But recent studies have suggested that "people sometimes engage in partial confession, where they admit some wrongdoing to restore their sense of morality but hide the full extent of their actions to avoid embarrassment and shame" (Barkan et al 2015 p158).

iii) "Distancing" - An individual presents themselves as moral by criticising the unethical behaviour of others.

Self-deception plays a role in unethical behaviour. It is "presumed to arise from a motivated desire to see the self and the world in ways that favour the self" (Chance and Norton 2015 p104). But self-deception as a concept is disputed. Chance and Norton (2015) distinguished three broad categories of definition:

i) A motivated false belief based on selective attention, biased information processing, or forgetting (ie: "positive illusion").

ii) A motivated false belief despite disconfirming evidence, which is ignored or discounted.

iii) A "motivated and conscious false belief held simultaneously with a conflicting unconscious true belief" (Chance and Norton 2015 p104).

Chance and Norton (2015) outlined three ways that self-deception may be an adaptive strategy:

a) Deceiving the self to deceive others - "Self-deception may have evolved as an adaptive strategy for deceiving others without being discovered. In this context, self-deception can prevent the liar from emitting nonverbal cues of guilt, minimise the cognitive load associated with lying, and reduce retribution via pleas of ignorance" (Chance and Norton 2015 p104).

This is quite difficult to study experimentally, but Lu and Chang (2014) attempted to do so. Student participants were shown a list of words and later tested on their recognition, but they had to tell a "teacher" (high-status individual) or "student" (equal-status individual) that they did not recognise the words while privately pressing a button if they did recognise the word. An incentive was offered to deceive the other person. Afterwards, the participants were given another recognition test alone. Individuals who had lied to the "teacher" did poorer on the second recognition test than liars to the "student". This was taken as "evidence that they had temporarily forgotten the truth and self-deceived" (Chance and Norton 2015 p105).

b) Gaining social rewards - Confident individuals are attractive, and self-deception that produces confidence (or even overconfidence) will gain this social reward. For example, students who were overconfident about their next grades (high self-enhancers) were perceived positively and inspired overly high expectations in others, except where individuals were "perceived to be high self-enhancers (those whom observers 'saw through')" (Chance and Norton 2015 p105).

This fits with the "optimal margin of illusion" (Baumeister 1989): "Self-deception can come with social benefits, but those benefits are not guaranteed" (Chance and Norton 2015 p105).

c) Psychological benefits from "viewing themselves, others, the state of the world, or their future prospects in preferred and self-serving ways... [For example] not only do optimists work harder to achieve their expected results, they gain direct utility from optimism" (Chance and Norton 2015 p105).

2.4. AVOIDING TEMPTATION

Fishbach and Woolley (2015) began by posing this question: "How can we explain why people sometimes succumb to ethical temptation and other times resist them?" (p36). Their answer was based around self-control, and self-control conflicts. The latter "involves a trade-off between two mutually exclusive courses of action, one of which offers immediate benefits and another of which offers long-term benefits. When applied to the ethical domain, an ethical self-control dilemma presents a choice between either behaving unethically to achieve momentary benefits (eg: dishonesty for immediate, selfish gain) or behaving ethically (eg: honestly) so as to maintain a moral self-image, a sense of integrity and, to the extent that a person's decisions are public, an ethical reputation and social acceptance in the long run" (Fishbach and Woolley 2015 p36).

Self-control conflicts can be intra-personal (eg: to eat healthily or not) and interpersonal (eg: to compete or collaborate with another person) (Fishbach and Woolley 2015).

A self-control strategy involves two stages, for Fishbach and Woolley (2015):

i) Identifying an ethical dilemma - Not all dilemmas are obvious, particularly if certain behaviours are the social norm, or may be noticed.

Fishbach and Woolley (2015) described three variables here:

a) "Broad bracket" - This is whether the unethical decision is viewed alone or in a broader context with other similar decisions ("broad bracket"). For example, Sheldon and Fishbach (2015) quoted in Fishbach and Woolley 2015) presented participants with six work-related ethical dilemmas (eg: taking office supplies home for personal use) either one at a time or altogether. The former group reported a greater intention to behave unethically.

b) Psychological connectedness - This is "the perceived stability of one's personal identity, or how similar the current self is to a person's future self" (Fishbach and Woolley 2015 p37).

Lower connectedness (ie: little perceived similarity between current and former selves) is associated for immediate rather than delayed benefits in decisions. Sheldon and Fishbach (2015 quoted in Fishbach and Woolley 2015) offered participants the opportunity to cheat in an experimental task, and individuals with stronger connectedness to their future self cheated less (mean: 4 out of eight occasions vs six for less connectedness).

c) Self-diagnosticity - This refers to how an action is perceived as reflecting the individual's self-concept. "Because part of the long-term benefits of ethical behaviour relate to maintaining a moral self-image, people will more easily identify a conflict when their actions are seen as more diagnostic of who they are" (Fishbach and Woolley 2015 p37).

ii) Exercising self-control - Advanced warning about an upcoming temptation will improve self-control. This is part of the counteractive self-control model (Fishbach and Shen 2014).

Sheldon and Fishbach (2014 quoted in Fishbach and Woolley 2015) set up mock negotiations where individuals could gain immediate benefits from competition or delayed benefits with co-operation. Participants who were forewarned about the temptation to compete were more likely to co-operate.

Co-operation in such a situation can also be boosted by increased perceived similarity between negotiators. Woolley and Fishbach (2015 quoted in Fishbach and Woolley 2015) used the consumption of similar or dis-similar foods before the negotiation task.

Baumeister and Alghamdi (2015) concluded their review on self-control thus: "Self-control is essentially a set of psychological processes by which individuals can alter their responses, in particular so as to bring them into line with standards. Hence self-control is central to moral behaviour. Moral standards often prescribe doing socially desirable actions that are costly to the individual. Self-control is a vital process for overcoming selfish and immoral impulses so as to do the right thing" (p68).

Baumeister and Alghamdi (2015) had outlined how self-control is linked to three factors:

a) Commitment to standards about how one should or should not behave - "The lack of relevant standards renders self-control seemingly unnecessary. For example, much self-sacrificing, pro-social action depends on empathic connections to others, and when empathy is low, such actions are diminished. Psychopaths, in particular, lack empathic concern for others, and so they do not mind doing harmful things that most other people would feel guilty about – hence they perform many more destructive, criminal, and otherwise immoral acts" (Baumeister and Alghamdi 2015 p67).

b) Monitoring of relevant behaviour - Low self-awareness correlates with less moral action, and after immoral behaviour individuals avoid self-awareness. For example, Greenberg and Musham (1981) found that individuals who expressed unacceptable views (contrary to their personal opinions) preferred not to sit facing a mirror if given the choice, while individuals who expressed their views did.

c) Capacity to change oneself (ie: willpower) - Energy is important here, and tired (ego-depleted) individuals are more likely to perform immoral behaviour (Baumeister and Alghamdi 2015).

2.5. DELIBERATIVE HONESTY

Bereby-Meyer and Shalvi (2015) proposed a slightly different idea: "Honesty at first glance may be considered the default response. To craft a lie, it stands to reason; people need to make a deliberate effort... we argue that when lying serves self-interest, that is, when lying is tempting, honesty may require deliberation" (p195).

Baumeister et al's (1998) model of self-control uses a concept called "ego depletion". Here, "self-control relies on a limited resource that gets depleted when one tries to inhibit competing behaviours, urges, or desires, just as a muscle tires after performing an effortful action. As a result, an initial act of self-control impairs subsequent acts of self-control, even in unrelated tasks" (Bereby-Meyer and Shalvi 2015 pp195-196).

For example, Mead et al (2009) found that ego-depleted individuals, who had been required to exercise self-control in an experiment, were more likely to overstate their performance in a task that was rewarded.

Sleep deprivation could also make self-control harder, and thus lead to unethical behaviour. Kouchaki and Smith (2014) noted that such individuals lied less in the morning than in the afternoon as they became more tired. Individuals, generally, have also bee found to be more unethical later in the week (Bereby-Meyer and Shalvi 2015).

Time pressure also increases dishonesty. Individuals privately rolled dice and reported their scores, knowing that certain scores were rewarded, either with a time restriction or not (Shalvi et al 2012).

Bereby-Meyer et al (2015 quoted in Bereby-Meyer and Shalvi 2015) found more lying for monetary gain in games performed in a native language rather than in a foreign one.

Bereby-Meyer and Shalvi (2015) confirmed "the automatic nature of dishonesty, at least in the face of temptation. We suggest that in situations in which lying is self-serving, namely when there is a motivation to lie, and when the lie is simple to craft, anonymity is preserved and there is almost no risk of being caught, the automatic tendency is toward self-serving behaviours, including telling lies. Only with deliberation, people become aware of the social norms expected from them, and when they have no way to justify lying, people are honest" (p197).

2.6. ADVICE VERSUS CHOICE

Dana and Cain (2015) pointed out a contradiction: "A fundamental ethical principle is that we should treat others as we ought to be treated. Yet, what people advise others to do is often different than what they choose for themselves" (p173). This is the difference between advice and choice.

Studies have looked at medical professionals, and how they vary in advice to patients and their choice of behaviour. For example, Atanasov et al (2015) found that female medical specialists advised their female patients to undergo mammography screenings earlier and more often than they would choose themselves.

Decision-makers appear to be "significantly more risk averse when choosing for others than when choosing for themselves", but "choices for others are more cautious only when there is potential to incur losses on others, rather than just incurring uncertain amounts of gain" (Dana and Cain 2015 p173). This focus on losses can be explained by "symhedonia" (Royzman and Rozin 2006) - "the positive emotion associated with observing others' good fortune" (Dana and Cain 2015) - which is less powerful than sympathy for others' losses (Dana and Cain 2015).

Another factor influencing decision-makers and advisors is that they will be held accountable for their advice, whether it is formal or informal. On the positive side, decisions will be more "objective". For example, choosing who to give charity to often depends on the physical attractiveness of the recipient, but this "beauty premium" is removed if advising another person (Cryder et al 2017) [51].

Where individuals desire to maintain a good relationship, advisors will be "overly wary of giving advice that can incur a loss" (Dana and Cain 2015 p174).

But Atanasov (2015) found that unrelated individuals showed an even larger gap between advice and choice when

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[51] "Effective altruism" (eg: MacAskill 2016) is the idea that help should be focused in the most effective ways (ie: based on objective information) rather than motivated by emotions. For example, the Poverty Action Lab at MIT in the USA evaluates the impact of various global health initiatives. De worming medication and insecticide-treated bed nets are more effective, say, to boost school attendance than donating textbooks to rural African schools (Firth 2017). But it is not always possible to assess the effectiveness of a charity, particularly in easy to understand numbers (eg: campaign for equal rights for LGBT individuals) (Firth 2017). Furthermore, "effective altruism's focus on dispassionate economic assessment also sits uneasily with the variety of roles altruism plays in human society" (Editorial 2017 p5).

reciprocal simultaneous advice is given. Also in this situation, individuals behave as if their choice will influence what the others decide. "If people choose less conservatively for themselves, it seems they would choose similarly for others in hopes that others make the less conservative choice for them" (Dana and Cain 2015 p174).

Advisors can also be influenced by self-interest (ie: conflict of interests). Dana and Cain (2015) noted that "it is not clear that conflicted advisers are mentally capable of giving unbiased advice due to unconscious and unintentional self-serving bias. For example, ample evidence suggests that gifts from industry bias physicians' treatment decisions, even while physicians are unaware of the influence" (p174). Concern that the advisor is advocating for their self-interest can lead the recipient to reject the advice, even if it was the decision they would have chosen themselves (eg: decisions in economic games) (Kuang et al 2007).

So, is the answer to make transparent the conflict of interests beforehand? Not necessarily so, as the advice can become more exaggerated. Firstly, advisors anticipate that their advice will be rejected, so they use "strategic exaggeration to compensate" (Dana and Cain 2015). Secondly, advisors who have been transparent upfront feel that it is acceptable to give biased advice (Dana and Cain 2015).

Doctors as patients is an interesting phenomena because "they do not conform to expected ideas about what a patient is in relation to the doctor, and how a patient behaves" (McKevitt and Morgan 1997 quoted in Wistrand 2017). This is seen further in Parsons' (1975) description of the hierarchical roles in healthcare - "the two polar aspects are the role of physician as the highest grade of publicly certified expert in health care, and the role of sick person" (quoted in Wistrand 2017).

2.7. COGNITIVE PROCESSES AND NEUROSCIENCE

Moral decisions and behaviours involve the cognitive processing of information. The dual-process theory of moral judgments (Greene and Haidt 2002) sees moral decisions as the same as all judgments and decisions, and involving conscious and non-conscious (eg: automatic; intuitive) cognitive processes. The type of processing leads to different decisions. Conscious processes are assumed to produce more "rational" cost-benefit (consequentialist) decisions, while non-conscious-based decisions are deontological (based on values, rights, norms and duties) (Fielder and Glockner 2015).

"Although the first issue is relatively

uncontroversial, the second aspect of the theory has been met with more criticism and inspired controversial debates" (Fielder and Glockner 2015 p139).

Studying moral judgments is difficult because directly asking individuals about their behaviour faces social desirability answers or lack of insight. Thus, the use of unobtrusive indirect measures, like eye-tracking to ascertain the focus of attention (Fielder and Glockner 2015). Different information about a moral dilemma is presented on a computer screen, and the information that is attended to can be measured. For example, Decety et al (2012) found more attention to a victim than a perpetrator in a harmful act, "indicating empathetic concerns according to the authors" (Fielder and Glockner 2015).

Hochman et al (2016) measured attention in an opportunity to cheat scenario. Individuals were rewarded for correctly guessing which side of a computer screen had more dots, but they had the opportunity to lie and receive the reward. It was found that individuals' attention was directed away from the correct side when lying, "indicating potentially unconscious avoiding processes" (Fielder and Glockner 2015).

Fielder et al (2013) investigated attention in a sender-receiver game, where individuals share money with another player or not. Selfish players focused mostly on their own outcomes, while pro-social players paid more attention to the outcome of the other players (Fielder and Glockner 2015).

Kouchaki and Gino (2015) discussed the use of biased memory processes to aid the maintenance of a positive self-image after unethical behaviour. In other words, "motivated forgetting" - ie: the "increased forgetting that results from active processes that down-prioritise unwanted experiences so as to create or sustain an emotional or cognitive state" (Kouchaki and Gino 2015 p83).

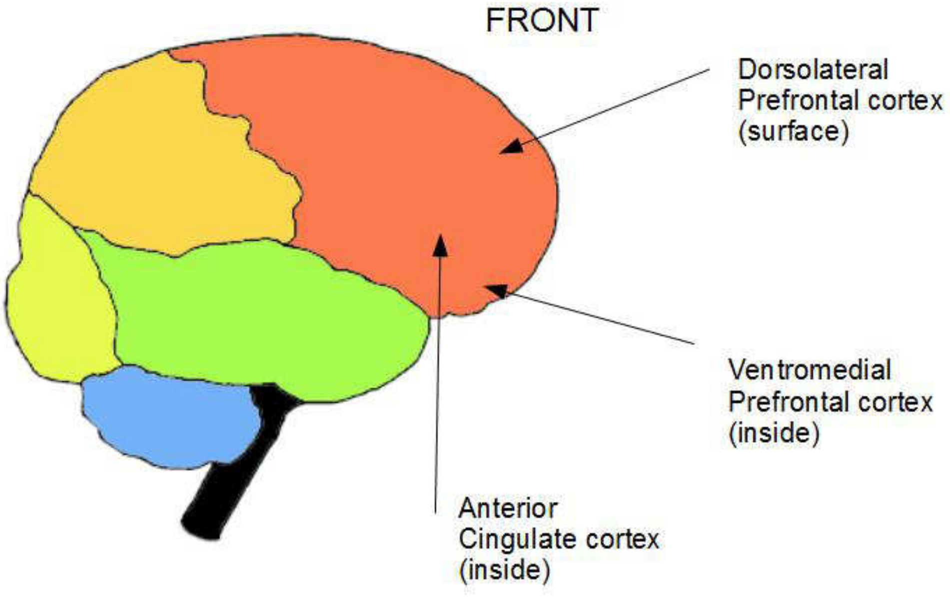
Shu and Gino (2015) found that individuals who had cheated by breaking rules were more likely to forget the rules that they had been exposed to prior to the opportunity to cheat. It could be that the individuals are "pretending" to forget the rules. But Bergstrom et al (2013) found changes in brain activity, so that "when presented with reminders of a crime, guilty participants' efforts to suppress retrieval was successful such that their brain activity was indistinguishable from those exhibited when they were innocent" (Kouchaki and Gino 2015 p84). This has been called "ethical amnesia" (Kouchaki and Gino 2015).

Kouchaki and Gino (2015) offered this comment - "this does not necessarily mean that the targets do not have the crime-related memories stored in their brain, rather that they have the ability to not remember a crime at that specific time" (p84).

The "social intuitionist model" (Haidt 2001) proposes that moral judgments are automatic, and "the human capacity for reason is largely relegated to the role of post hoc rationalising, merely serving to justify initial moral intuitions" (Van Bavel et al 2015 p167). The ventromedial prefrontal cortex is involved in this process, as individuals with damage to this area make more rational moral judgments (Van Bavel et al 2015).

But a number of other brain regions are also involved (eg: eight areas; Greene and Haidt 2002), and this suggests that the dichotomy between intuition and reason is too simple (Van Bavel et al 2015).

One problem is the use of hypothetical scenarios to study moral decision-making (called the "hypothetical bias effect"; Kang et al 2011). "When a decision is hypothetical, individuals routinely report that they would behave honestly and altruistically. Yet when tasked with the same decision in a more realistic context, monetary self-benefit often trumps previously stated intentions to be honest or to help another" (Van Bavel et al 2015 pp168-169). These socio-emotional factors involve the dorsolateral prefrontal cortex and the anterior cingulate cortex (Van Basel et al 2015) (figure 2).



(Based on Van Basel et al 2015 figure 2 p169; my labels on drawing by Washinton Irvine; in public domain)

Figure 2 - Three brain areas involved in moral judgments.

Kushner and Giordano (2017) stated that there is "an ethically defensible obligation for brain research — to inform and improve health, medicine, and quality of life, and to contribute to a deeper understanding of humans and other organisms..." (p524). Alongside this is neuroethics, which "can and should play a role in assessing, identifying, articulating, and advocating the sound conduct of brain science and its uses" (Kushner and Giordano 2017 p524).

This is more important than ever, argued Kushner and Giordano (2017), in "an age of increasing misinformation. Therefore, reality checks become ever more vital, given the rapid movement of information via broad Internet distribution, professional and social media, tweets and re-tweets, and last but certainly not least, governmental postures that are trending away from factual deliberation. Such trends can incur inaccurate views and expectations of brain science. Assessing what is known, what is not known, and what is believed are all instrumental to ethical analysis" (pp524-525).

So, neuroethics must highlight what brain science can and cannot do, and what it should and should not do, but "neuroethical discourses on the amplified benefits, risks, and harms of neuroscience and neurotechnology, and/or on distant 'future shock' scenarios that posit effects far beyond the possibilities of neuroscientific capability serves little benefit, and is unnecessary" (Kushner and Giordano 2017 p525).

2.8. MORAL COHERENCE

"Moral coherence" is the desire to make sense of the moral world, and it can include blaming the victim for their misfortune when the victim has no control over events (eg: natural disasters) (Clark et al 2015).

This links to Lerner's (1980) idea of the "just world hypothesis" - ie: individuals get what they deserve and deserve what they get. "Unfortunately, events like natural disasters and other varieties of seemingly senseless victimisation do not always comport with this moral logic, and so maintaining belief in a just world sometimes requires people to construct narratives in which victims deserve the misfortunes that befall them" (Clark et al 2015 p123).

Clark et al (2015) described this as reverse engineered form of moral coherence, and it involves a number of processes, including:

i) Attributions of intention - eg: "side-effect effect" (Knobe 2003). The side effects of an action are perceive more intended when the consequences are morally bad than good.

ii) Attributions of causality and control - "People who perform morally harmful actions are also perceived as being more causally responsible for their outcomes compared to those who perform morally ambiguous or morally positive actions" (Clark et al 2015 p124).

Young and Phillips (2011) asked participants to judge the level of control over actions in a scenario where a ship's captain forced a sailor to throw the passengers or cargo overboard. The sailor was perceived as less forced with passengers than cargo, and "both the forcer and forcee were held maximally responsible for the morally reprehensible action of killing passengers" (Clark et al 2015 p124).

iii) Higher order culpability - Nichols and Knobe (2007), for example, found that participants, when told to assume a completely deterministic universe (ie: no free will), still blamed an individual for an immoral act, but not for a morally neutral one.

iv) Consequences - "The worse the consequences of an act, the more immoral that act is judged to be. This can be thought of as either a feature of moral reasoning – it is the foundational normative principle underlying a consequentialist moral ethic – or a bug – in that it leads to odd patterns of judgment such as the very same act being judged differently depending on the severity of its consequences. This latter effect has been dubbed the outcome bias [Baron and Hershey 1988] and it is easily subsumed within a coherence framework (ie: people assume that bad moral consequences result from bad moral acts)" (Clark et al 2015 p125).

2.9. MORAL CHARACTER

Three dimensions of personality can be described as "moral character". These are (Cohen 2017):

i) Honesty-humility - the motivation to do good and not wrongdoing;

ii) Conscientiousness - the willpower to do good;

iii) Guilt proneness - "the extent to which a person would feel bad if he or she did something wrong, even if no one knew about it" (Cohen 2017 p34).

The latter is associated with honesty, responsibility, and being a good team member, and can be measured with the Guilt and Shame Proneness Scale (GASP) (Cohen et al 2011) (table 4).

Honesty-humility is linked to helpful work behaviours called "organisational citizenship behaviours" (OCBs) (eg: volunteering; being flexible to others'

- After realising you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?

- You secretly commit a crime. What is the likelihood that you would feel remorse about breaking the law?

- At a co-worker's housewarming party, you spill red wine on their new cream-coloured carpet. You cover the stain with a chair so that nobody notices your mess. What is the likelihood that you would feel that the way you acted was pathetic?

- You lie to people but they never find out about it. What is the likelihood that you would feel terrible about the lies you told?

Each item is answered (1) "extremely unlikely" to (5) "extremely likely".

(Source: Cohen et al 2011)

Table 4 - Items from GASP.

needs; being a good listener to others' problems) (Cohen 2017).

Cohen et al (2014) regularly surveyed 1500 employees in many US companies in 2011 and 2012 about OCBs and "workplace deviance" (eg: stealing stationary items; reporting sick when not). Both self-reports and co-worker reports showed more deviance for individuals low on honesty-humility, conscientiousness, and guilt proneness, and high scorers were more likely to perform OCBs. For example, individuals with low guilt proneness (ie: lowest 25% of the sample) had an average of eight workplace deviance acts per month and 22 OCBs compared to one and 36 respectively for high guilt proneness scorers (highest quartile).

In terms of leaders, individuals with high honesty-humility are rated as ethical by subordinates, and those high on guilt proneness are rated as effective leaders (Cohen 2017).

3. APPENDICES

APPENDIX A - GOOD HUMAN LIFE

Glover (2006) distinguished two main views about the central core of a "good human life":

a) Human flourishing - What do individuals need to flourish? A Darwinian view would focus on those things necessary for survival and reproduction, while a "normal-functioning" view "explains flourishing in terms of having the physical and psychological functions possessed by a 'normal' member of the species" (Glover 2006 p88). These two views see human flourishing in narrow terms (Glover 2006).

A wider understanding of flourishing includes "human goods", like health, nourishment, shelter, imagination, and love.

Nussbaum (2011) proposed ten human central capabilities:

- Life
- Bodily health
- Bodily integrity
- Senses, imagination, and thought
- Emotions
- Practical reason
- Affiliation
- Other species
- Play
- Control over one's environment (Richardson 2016).

b) Happiness - Aristotle saw "eudaemonia" (ie: doing and living well or "happiness" literally) as the highest human good (Walker 2012).

Jeremy Bentham summed up the utilitarian view of happiness as "enjoyment of pleasures, security from pain" (Glover 2006).

But this definition is not necessarily the same as the "good human life", as shown by Robert Nozick's (1974) "experience machine" critique. There exists in the future a machine that individuals can be hooked up to and they will experience their own taste in pleasure. Most people respond with "no" if asked whether they would want to spend their whole lives attached to this machine, and it is argued that this was because the experience is passive, and that individuals want more from life (Glover 2006).

Nettle (2005) described three levels of happiness:

- Level 1 - momentary feelings of joy and pleasure
- Level 2 - judgments about well-being
- Level 3 - quality of life (Walker 2012).

Widening the definition of happiness to the satisfaction of desires, then the more desires satisfied (particularly stronger desires) the happier an individual will be. "But in turn it is too simple. The desires people have may be based on ignorance or on mistaken beliefs. So perhaps happiness should be seen as the satisfaction of informed desires: not the ones people actually have but those they would have if they only knew" (Glover 2006 p91).

But, more than that, happiness can "come from things that surprise us: things not thought of and so not desired" (Glover 2006 p92). There are also "pathological" desires, where satisfaction of them is a worse life that not satisfying them (eg: addictions and compulsions) (Glover 2006).

"Happiness is not just contentment or satisfaction, but also requires a certain richness of life" (Glover 2006 p92).

Well-being is another concept that is used. It is defined by UNICEF in 2007, for instance, as "having the basic things you need to live and being healthy, safe and happy" (quoted in Walker 2012) [52]. It includes:

- Affective or hedonic component - "happiness" [53];

- Cognitive component - "an information-based appraisal of one's life, for which people judge the extent to which their life so far measures up to their expectations and resembles their envisioned ideal life" (Walker 2012 p25);

- Conative component - "the personal, intentional, deliberate, goal-oriented or striving component of motivation, the pro-active (as opposed to reactive or habitual) aspect of behaviour" (Walker 2012 p24) [54].

Hausman (2015) distinguished four main groups of definitions and theories of well-being:

1. Well-being consists of mental states like happiness or pleasure.

2. Well-being consists in "flourishing" (or "positive human health"; Ryff and Singer 1998).

3. Well-being consists in a set of objective goals.

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[52] Hausman (2015) defined well-being as the "dynamic coherent integration of objective goods into an identity" (quoted in Wilson 2017).

[53] Josefsson et al (2011) referred to a hedonic type and an eudaimonic type. "Hedonic well-being refers to how and why people experience their lives in positive ways, and consists of a combination of negative and positive emotions and life satisfaction... Eudaimonic well-being encompasses the wider domains of personal growth, purposeful engagement and self development... The concepts of hedonic and eudaimonic well-being are distinct but related components of psychological functioning, and both are needed to fully understand the nature of well-being..." (Josefsson et al 2011 p266).

Aristotle coined the term "eudaimonia" to refer to "the joy that comes from fulfilling what is highest and best in our nature" (Evans 2012 p213).

Epicurus (Epicurean philosophy) advocated pleasure and its attainment as the only purpose in life (Evans 2012).

[54] Epictetus (Stoic philosopher) distinguished between what we could control (our beliefs) ("zone 1") and what we could not (eg: our body, our environment, the future) ("zone 2"). The problem is a failure to take responsibility for zone 1, and attempts to exert control over zone 2 (Evans 2012).

4. Well-being consists in the satisfaction of desire.

Well-being is associated in studies with quality of life, life satisfaction, positive mental health, and wellness, for example (Walker 2012) [55]. Well-being increases with rising living standards. The "Easterlin Paradox" (Easterlin 1974), however, argued that "once wealth reaches subsistence level, its effectiveness as a generator of well-being is greatly diminished" (Walker 2012 p28). Consequently, wider indicators of well-being, like the Measure of Economic Welfare (MEW) include non-economic factors like pollution, and the Index of Economic Well-Being (IEWB) includes physical and human capital, inequality, and divorce rates, for example (Walker 2012) [56] [57] [58].

Studies have looked for personality traits or profiles that correlate with well-being. Cloninger and Zohar (2011), for instance, in an Israeli study, found that self-directedness [59], co-operativeness [60], and self-transcendence [61] correlated with aspects of well-being [62].

Josefsson et al (2011) confirmed these findings using data from the Cardiovascular Risk in Young Finns Study, which began in 1980 with 3596 participants. But different measures were used in the two studies

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[55] "A high level of well-being is not equal to an easy problem-free life or life with only positive events. People have the ability to adapt to challenging events and setbacks and to evaluate their life from the view point of the changed life situation... When people adjust their expectations in response to, say, declining physical health, they can still feel well and content in the constraints of their new life situation. This emphasises the difficulty of an objective observer in evaluating people's wellbeing, and highlights the importance of person-centred subjective experience" (Joseffson et al 2011 p266).

[56] Well-being includes aspects of mental and physical health, supportive social relationships, and the ability to cope with stress, according to Josefsson et al (2011).

[57] Held (2002) referred to the "tyranny of the positive attitude" - ie: popular culture, in the USA in particular, is "saturated with the view that we must think positive thoughts, we must cultivate positive emotions and attitudes, and we must play to our strengths to be happy, healthy, and wise. The tyranny of the positive attitude lies in its adding insult to injury: If people feel bad about life’s many difficulties and they cannot manage to transcend their pain no matter how hard they try (to learn optimism), they could end up feeling even worse; they could feel guilty or defective for not having the right (positive) attitude, in addition to whatever was ailing them in the first place" (Held 2004 p12).

[58] Sen (1987) distinguished between well-being and agency, and the difference between objective and subjective measures: "Deprived groups may be habituated to inequality, may be unaware of possibilities of social change, may be hopeless about upliftment of objective circumstances of misery, may be resigned to their fate, and may well be willing to accept the legitimacy of the established order. The tendency to take pleasure in small mercies would also make good sense given these perceptions, and cutting desires to shape (in line with perceived feasibility) can help to save one from serious disappointment and frustration" (p9).

[59] Purposeful and resourceful individuals are high scorers.

[60] High scorers are empathetic, helpful, and socially tolerant.

[61] "Self-transcendence enhances awareness of connections beyond the individual self with other people and the world as a whole" (Josefsson et al 2011 p271).

[62] These are traits measured by the Temperament and Character Inventory (TCI) (Cloninger et al 1993).

(Josefsson et al 2011).

Waygood et al (2017) explored the relationship between well-being and travel for children using three criteria:

i) Access - ie: where travel takes the individual. For example, most research found that "active travel was consistently associated with more leisure activities and independent (or autonomous) mobility with more physical activity" (Waygood et al 2017 p34). On the other hand, families in rural areas and/or low-income had less opportunities for travel.

ii) Intrinsic influence - eg: health benefits of cycling. Generally, active travel contributes to daily physical activity (Waygood et al 2017).

In terms of emotions, the walk to school helps prepare the child for the day, and the walk home gives the opportunity to de-stress, while the school bus can be an "emotional battleground" (Murray and Mand 2013).

iii) Extrinsic influence - behaviour of others during travel (eg: traffic safety). Crashes are the main cause of death of children and adolescents, while traffic-related pollution has negative health effects (Waygood et al 2017).

APPENDIX B - EXAMPLE OF SCREENING

Williams et al (2017) stated: "Public health is represented as being about populations or publics, and this is seen to distinguish it from clinical or bioethics which is seen to be more concerned with the interests or well-being of individuals. Very broadly speaking, when clinical ethics, medical ethics or bioethics are contrasted with public health ethics, the former are generally characterised as being more concerned with respecting autonomy, and the latter with delivering common goods, especially population health" (p6).

In screening programmes there is a tension between "serving society and serving the patient" (Juth and Munthe 2012). Williams et al (2017) argued that cervical screening is covered by both public health and clinical ethics as it is aimed at both society as a whole and individual women.

Widdows and Cordell (2011) distinguished between "aggregated common goods or benefits (ie: those constituted of the goods or benefits accruing to individuals, aggregated at the level of populations), and corporate common goods or benefits (ie: those which inhere at the level of whole communities and are emergent properties of those communities)" (Williams et al 2017 p6). Cervical screening offers both of these.

But the benefits and burdens of such screening is distributed unevenly among individuals, and in relation to the latter, these include younger women who have inconsequential abnormalities detected, or that higher SES individuals are more likely to take part (but may not be the highest risk group) (Williams et al 2017).

As an example of empirical bioethics, Williams et al (2017) interviewed fifteen experts involved in cervical screening policy in Australia, and found four different positions ("purposes") about an organised programme:

i) Screening should aim to ensure no cervical cancer occurs in individuals - ie: save all identifiable lives.

ii) Screening should aim to minimise cervical cancer in the population - ie: maximise the programme to include hard-to-reach individuals.

iii) Screening should reduce the harms of opportunistic screening - eg: unnecessary treatment.

iv) Screening should have equal access - ie: to redress social disparities.

As medical technology develops the ability to screen for different conditions and genes will increase. But this can cause problems. For example, Arnold (2017) talked about "variant of unknown or uncertain significance" (VUS), which is the term for mutations in the DNA not known if pathogenic (ie: disease-causing) or benign. VUS mutations in the DNA are more common than previously thought, but understanding the meaning of such findings in genetic tests is difficult for medical professionals as well as laypeople (Arnold 2017).

Screening programmes can be organised (eg: all individuals of a certain age) or opportunistic (ie: for individuals as required).

Austria introduced an organised biennial breast screening programme for women aged 45 to 69 years in 2014, which allowed comparison with the opportunistic programme prior to that. Schiller-Fruehwirth et al (2017) calculated that the "additional health benefits of organised screening versus opportunistic screening amount only to a few days of additional life expectancy for all screened women in the lifetime perspective because the vast majority of women who do not develop breast cancer do not benefit from cancer screening at all. For the proportion of women diagnosed with breast cancer by organised screening, the additional life expectancy amounts to around 2 months. Nevertheless, public health relevant numbers show that 10,000 additional life-years are gained in the lifetime perspective when a cohort of 500,000 Austrian women attend organised screening from the age of 45 to 69 years" (p1053).

The success of organised screening depends on the coverage (ie: how many individuals take up the offer of screening). For example, if the coverage was 60%, breast cancer mortality was calculated to fall by 19% (compared to 15% by opportunistic screening), but by only 14% if take-up was by 55% of women.

APPENDIX C - DEFINING HEALTH

The International Classification of Functioning, Disability and Health (ICF) (WHO 2001), for example, was developed with a conceptual model that "disability is a multi-dimensional and universal phenomena placed on a continuum with health. Human functioning is understood as a continuum of health states, and every human being exhibits one or another degree of functioning in each domain, at the body, person, and society levels" (Alvarez 2012 pS70).

An alternative comes from Venkatapuram (2011), who proposed a capability approach to health, whereby human health is seen as the capability to be healthy (CH) - ie: "to achieve, exercise or express a cluster of basic and inter-related capabilities and functionings" (Venkatapuram 2011 quoted in Buyx et al 2016) [63] [64].

Definitions of health vary from narrow (eg: absence of disease) to broad (eg: overall well-being), while

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[63] Venkatapuram (2011) made the "rather mundane observation" that "for human beings to be able to live a full lifespan and experience as few avoidable physical and mental impairments as possible they need to be surrounded by a supportive environment. That is to say, for human beings to live a long and healthy life requires not only having access to clinical medical care when they need it, but also having other things ranging from emotional nurturing as well as cognitive and physical stimulation when they are infants to adequate nutrition, shelter, clothing, access to information, protection from physical, psychological and sexual abuse, and so forth throughout their life" (p1).

Venkatapuram (2011) argued for "the recognition of every human being's moral entitlement to a capability to be healthy (CH). Or, in shorthand, a human right to be healthy" (p3). He continued: "Much of the injustice lies in millions of individuals dying or becoming impaired who could otherwise have lived longer or been more able – more free – to be and do what they want in their life had the social arrangements been different, had each person’s capability to be healthy been recognised as a basic moral entitlement, and the social arrangements been organised in such a way that nurtures, protects, promotes and restores people’s capability to be healthy" (Venkatapuram 2011 p5).

Barry (2005) asserted that "wherever we find groups defined by class (however measured), ethnicity, race or any other structural characteristic that experience differences in the quality of their health, the society has a *prima facie* unjust distribution of health" (quoted in Venkatapuram 2011).

[64] Sen (2002) argued that "health equity cannot but be a central feature of the justice of social arrangements in general" (quoted in Venkatapuram 2011), while Rawls (eg: 1971) took the view that human health was a "natural good" and not related to social justice.

Venkatapuram (2011) takes a middle position with a holistic theory. Such theories "take the whole, acting and experiencing, individual as their starting point, and that, in general, they also define health in relation to a context, that is, a social and physical environment. The holistic theories, furthermore, differ from the broader well-being theories in that they narrow down the kinds of 'well-being' that belong to, or constitute, health" (Tengland 2016 p9).

Broome (2002) pointed out the inseparability of factors - "asthma is less bad if you are well housed, mental handicap less bad in supportive communities, deafness less bad if you have access to the internet. Conversely, features of a person's health affect the value of other things: radios are no good to the deaf, nor running shoes to the lame. The interaction between health and other features of a person's life is so intimate that health cannot be treated as separable... Pain is bad in itself, and it also reduces your ability to enjoy music. Is the latter an instrumental effect? It depends whether we count your ability to enjoy music as a health or non-health factor in your well-being. I am not sure where to draw the boundaries of health" (quoted in Richardson 2016).

C1. The Value of Health and Hausman (2015)

Hausman (2015) outlined three reasons why organisations like the WHO collect data on health (ie: the purpose of health measures):

i) To make comparisons of health within populations and between populations.

ii) To make comparisons of the effects of different causes of ill health.

iii) To make comparisons of the effects of public health responses (ie: "what works").

This last purpose of data collection is also relevant to the allocation of resources. A response can be assessed as effective "by subtracting what one expects overall health to be with the policy from what one expects overall health to be with some other policy in its place" (Hausman 2015 p5) [65]. Consequently, an

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[65] Debates about public policy differ from abstract moral arguments in three ways, according to Wolff (2011a):
i) There is "little space for 'agreeing to disagree': some policy or other is needed" (pp4-5);
ii) There is a bias towards the public policy already in place;

effective policy response should receive resources. But there needs to be "precision in order to be able to discriminate among policies" (Hausman 2015 p5). And because of the need to take account of local political consensus, Hausman (2015) was doubtful that any single measure of health would be universally suitable [66].

Hausman (2015) argued that "the public value of health should be measured by the extent to which (i) suffering and (ii) activity limitations are relieved" (Wilson 2017 p105), but concepts like quality-adjusted life years (QALYs) (appendix R) and the Global Burden of Disease actually "measure the private value of health, that is, health's 'contribution to whatever the individual cares about or should care about' [Hausman 2015], whereas what should be measured for resource allocation purposes is the public value of health, that is, the value health should be accorded from the perspective of the liberal state" (Wilson 2017 p105).

For Hausman (2015), the use of QALYs leads to the valuation of saving a life based on how good that person's health is (the so-called "QALY trap"; Ubel et al 2000).

On the other hand, claiming that all lives are of equal value is ambiguous (Hausman 2015). "The claim is ambiguous with respect to (a) what kind of value each life is supposed to possess equal quantities of, with respect to (b) the perspective or point of view from which lives are supposed to be equally valuable, with respect to (c) the purposes to which the value judgment is supposed to be put and, finally, with respect to (d) what counts as 'life'. For example, if one interprets life to be biological functioning and the relevant value to be human excellence, then lives are not equally valuable, because they are not equally excellent. Life in a persistent vegetative state has less perfectionist value than a non-descript life as a cashier" (Hausman 2015 p62).

How, then, to measure the value of health? One way is to ask individuals how they value time spent in a particular health state which is less than full health as compared to in full health (Wilson 2017). An alternative way is to ask individuals how they feel at particular

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iii) Being widely shared and accepted by the public often matters more in public policy than whether an idea is correct or right.

[66] Local political consensus might, for example, place more emphasis on health resources to help premature babies than very old adults. However, Hausman (2015) pointed out: "That consensus must be morally defensible. When the local consensus reflects indefensible attitudes, such as the view that the health and lives of boys are of greater value than the health and lives of girls, then the health measure should not follow local values". (p5)

moments (experienced subjective utility), and a total or average is calculated for particular health conditions (Dolan and Kahneman 2008). But this seems to "presuppose that how good a life is overall is a simple function of how good it is at each separate moment, but most people (including Hausman) think that the shape and order of events in a life make a difference to how well it goes. If so, the goodness of a life as a whole cannot be determined simply by 'adding up or averaging how good it is during separate periods' (Hausman 2017)" (Wilson 2017 p106) [67].

Hausman (2015) argued: "The problem is that the effects of health on well-being cannot be disentangled from the impact of other factors. If two individuals in the same health state are in different circumstances, then their well-being may be different, too; and that difference cannot be factored into some common portion contributed by health coupled with the separate contributions of the circumstances. The impact on well-being of a token health state of a particular kind (that is, the contribution to the overall well-being of a specific person P that results from P's being in that health state at a specific time) differs depending on P's circumstances. A health state of any specific kind makes no uniform contribution to well-being" (p67).

The "token health state" is influenced by factors like technology, cultural and social norms, and individual tastes (Hausman 2015). For example, the experience of a loss of a finger is different in societies with robotic replacements (technology), in societies where perfect hands are highly valued (cultural norms), or for a professional pianist (individual tastes).

C2. Universal Health Coverage

Universal health coverage (UHC) is the provision of health care equally to all members of society, but does it narrow social inequalities in health? This is hotly debated.

Sreenivasan (2007), for instance, argued that UHC is less effective in reducing the "social gradient in health status" (a comparative goal) than spending the money (eg: 7% of GDP) on dealing with social determinants of health (SDH) (appendix S) [68]. Sreenivasan (2007) used data from

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[67] Economic evaluations of the cost effectiveness of interventions often assign numerical values to health states (known as health state utility values; HSUVs). HSUV estimates for chronic conditions have been made, but less so for temporary health states (eg: pregnancy-related complications; sexually transmitted infections) (Ogwulu et al 2017).

[68] Reid (2016) called this a "false dichotomy".

"The Black Report" (Black et al 1982) in the UK to support this argument. Since the 1950s, the implementation of UHC in the form of the National Health Service (NHS) has not reduced the difference in mortality or health measures between the highest and lowest social classes. This is Sreenisavan's interpretation of "The Black Report" which is challenged by Reid (2016).

She particularly highlighted the problem of finding a good outcome measure. For example, "all-cause mortality" is commonly used, but a "classic and vivid example of counter-intuitive results is that whenever doctors and other health care providers go on strike, the mortality rate of the population falls or stays the same" (Reid 2016 p234). Another measure, however, "access to primary care" does lead to improvements in health inequalities as, for example, low SES individuals visit GPs more than high SES individuals (Reid 2016) [69].

There is also the problem with establishing that spending the money on changing social determinants of health would be successful (Reid 2016).

More recently, Sreenivasan (2013) suggested that "if our goal were only to improve opportunity to a good-enough level (a non-comparative goal) or to address those who are worse off, then perhaps an improvement in health that would bring more people (or everyone) to a good-enough health outcome would be sufficiently justice-promoting to show that UHC advances the cause of justice" (Reid 2016 p239). To support this idea, "The Black Report" data showed that mortality for each social class has declined to some extent since the introduction of UHC (Reid 2016).

With the SDH position (eg: Marmot 2004) arguing that poverty and poor living conditions, for instance, along with unhealthy behaviours make individuals ill, this seems to suggest that UHC is of limited importance, and Wolff (2011a) asked: "Why should we put so much emphasis on the issue of universal health care if it is likely to make relatively little difference to health and life expectancy compared to other factors?" (p130).

Wolff (2011a) offered an answer to this question in terms of "health security" ("the inverse of risk or vulnerability"), which has four dimensions:

- Vulnerability - The probability of falling ill.

- Control - The cost and difficulty of strategies to

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[69] Sen (2002) argued that health equity is multi-dimensional, "with a vast array of possible influences on health outcomes - from broad epidemiological factors (including the biological and environmental) to specific social arrangements (not just health care financing and delivery, but education, labour and so on)..." (Reid 2016 p238).

reduce health risks. Difficult or costly ways to change behaviour are "low control", and cheap and easy strategies are "high control".

- Resilience - the ability to "bounce back" after illness, including the medical, social and financial consequences. "The medical aspects include one's ability to access care and to take advantage of it. Social aspects include government initiatives to educate the public about illness, in order to reduce the stigma, say, of cerebral palsy or mental illness, but also steps it might take to help (or hinder) individuals' ability to form a supportive social network, whether in terms of support groups or more generally. Financial aspects include the cost and availability of medical and unemployment insurance" (Wolff 2011a pp141-142).

- Anxiety - Fears related to becoming ill, including "money worries".

"Hence a system of universal coverage, free at the point of use, is good for individual health even if no one takes advantage of it. (Note that systems with significant 'co-payments' – contributions from patients – lose this advantage.) A system in which medical bankruptcy is a possibility – especially a common occurrence – is one that does poorly on the 'resilience' dimension of health security; and if people live in fear or anxiety of such outcomes, does poorly also on a further dimension, fear and anxiety" (Wolff 2011a p144).

UHC could be challenged by "conscientious refusals" (CR) (Liberman 2017). This is where healthcare providers refuse to provide certain healthcare services (eg: abortion; types of contraception or assisted reproduction; physician-assisted dying) [70].

Liberman (2017) stated: "It is widely acknowledged that refusing to perform a task or provide a service counts as an instance of conscientious refusal only if the objector is refusing because she takes acting to be morally wrong or religiously impermissible. Less frequently articulated explicitly — although

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[70] "To have moral beliefs and a commitment to live by them are of fundamental importance in most people's lives. And one might say that it is in itself wrong to act deliberately against one's moral beliefs – it would reflect a blameworthy indifference to morality – and it would therefore also be wrong to make someone else act against their moral beliefs... Moreover, acting against one's moral beliefs can have devastating personal consequences, such as strong feelings of guilt, remorse, shame, the loss of self-respect and, over time, potentially the undermining of one's moral character... Some people believe that medical practices such as abortion and euthanasia are akin to murder – clearly, from their perspective, being required to participate in such practices will be experienced as deeply troubling" (Wester 2015 p429).

widely presumed — is the fact that someone who conscientiously refuses to U must take herself to be responsible in some way for the moral wrong brought about by Uing" (p495).

Liberman (2017) outlined some issues related to CR:

i) They must be "genuine or sincere, and employed only when necessary to prevent genuine violations of conscience" (p497).

ii) The medical professional must have knowledge of the area in which they are refusing ("epistemic competency"). "Suppose a physician falsely believes that giving young girls the HPV vaccine will cause them to have sex at an earlier age than girls who do not receive the vaccine. This physician is morally opposed to sexual activity among pre-teens, and believes that administering the HPV vaccine will make him personally responsible for higher rates of such activity. This is not a conscientious refusal of the right kind. Although there can be reasonable disagreement about whether it is good for adolescents to engage in sexual activity, minimally competent physicians cannot base their professional decisions in empirically false beliefs about the effects of the HPV vaccine" (Liberman 2017 p499).

iii) The professional decision must not be made irresponsibly ("normative competency").

iv) The medical professional must show the appropriate professional behaviour to the patient (eg: decisions are not based on racial discrimination) ("relational competency").

Alternatively, there is a "social contract" between healthcare professionals and society, which Savulescu (2006) summed up thus: "If people are not prepared to offer legally permitted, efficient, and beneficial care to a patient because it conflicts with their values, they should not be doctors" (quoted in Wester 2015).

One solution to CR is the option of an alternative healthcare provider who does not refuse, but there may be practical problems about transfer (eg: distance, cost, feasibility) (Wester 2015).

APPENDIX D - PERSONAL RESPONSIBILITY

Wikler (1987) began his article: "Health promotion is frequently said to proceed from the premise that individuals are responsible for their health. Fine - but what does it mean? Perhaps nothing more profound than that people will usually be healthier if they try to take better care of themselves. However, if that is all it means, it is too simple an idea to serve as the philosophical foundation for a comprehensive approach to health and health care. To fulfil that latter role, it must be understood as having moral and policy implications, and must involve ethical and even judicial concepts: role, obligation, and duty: perhaps fault, blame, and excuses, guilt, punishment, and compensation" (p11).

One view on the person responsibility for health [71] is in order to avoid becoming dependent or a burden on others. "Accordingly, failure to accept one's responsibility for health is deemed to be grounds for penalties which would not be otherwise justified. If people fail in this responsibility and allow themselves to become sick, they may forfeit any claims to their neighbour's aid. Alternatively, they might be obligated to submit before actually becoming ill to policies which enforce this responsibility, including those which interfere with ordinary liberties through coercive health programmes and prohibition of unhealthy substances and particles" (Wikler 1987 p12).

But that does assume an individual is "a free, competent agent" (Wikler 1987). Wikler (1987) noted an implication of this: "Someone who would not need medical care except for his own unhealthy lifestyle is thus creating needs for medical care where none would otherwise exist. The resulting health care needs thus have a different moral status from other, 'involuntary' needs" (pp14-15). This fits with the idea of "liability-responsible".

Wikler (1987) outlined some of the arguments for assigning responsibility for health to the individual:

a) "We know what people can do to stay healthy" - There is growing evidence of behaviours that are beneficial to health.

b) "People who take risks with their health (wrongly) burden others" - This applies in a publicly-funded health system, but not necessarily where individuals pay for their own health insurance.

c) "No-one has the right to force others to pay for

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[71] Dworkin (1981) distinguished three types of personal responsibility for health:
i) "Role-responsible" - an individual is responsible for their body because it is their body;
ii) "Causally-responsible" - responsibility for health based on choice of behaviour;
iii) "Liability-responsible" - responsible "if, and to the extent that, one is assigned liability for the costs and other undesirable consequences of being sick" (Wikler 1987 p12).

their unhealthy behaviour" - But how to "agree on which of the burdens of our choices place on others is unfair" (Wikler 1987)?

d) "People freely choose their risks" - This opens up the question of how free individuals are in making choices.

APPENDIX E - AUSTRALIAN EXAMPLE

In Australia in 2009, a social marketing campaign called "How Do You Measure Up?" was undertaken to target weight. The TV advertisement showed a man getting fatter as he got older until his early death which was mourned by his young daughter.

Carter et al (2011) pointed out that the use of parental guilt is an example of unreasonable coercion, and the campaign may have also created concerns in low-risk individuals. "These problems are in part a result of applying population-level risk data to create messages targeting individuals, and of focusing on the single risk factor of body weight" (Carter et al 2011 p467).

The campaign was meant to encourage action as the fictional protagonist in the end decides to "turn his life around" with diet and exercise. But this statement "may also encourage blame of those who do not simply decide to 'turn their lives around' because of personal, experiential, socioeconomic, physiological, and other circumstances" (Carter et al 2011 p467).

Carter et al (2011) accused the "How Do You Measure Up?" campaign of valuing individual change over community change, biological health over self-image or general well-being, and reducing population waist circumference over unreasonable coercion and stigmatisation.

APPENDIX F - CHOICE IN HEALTHCARE PROVISION

"The thrust of health system reform in many countries has been the adoption of market-style arrangements involving choice and competition at their centre. Those opposed to, or wary of the inflated claims made for, markets in health care are often dismissed as being opposed to any change, as defending outmoded professional practices and self-interest, or as reactionaries harking back to a mythical golden age" (Hunter 2008 p116). Le Grand (2007) argued for choice and competition in public health service provision: "It fulfils the principle of autonomy, and promotes responsiveness to users' needs and wants; it provides incentives for providers to provide both higher quality and greater efficiency; and it is likely to be more equitable than the alternatives" (quoted in Hunter 2008).

Hunter (2008) noted "a paradox of markets" is the motivation of companies to "establish a monopoly or cartel in order to remove competition". Among other implications for healthcare is the focus on mildly ill individuals, who are more "profitable" to private providers.

White (2007), writing about markets and medical care in the USA, argued that competition did "nothing to solve basic organisational problems such as how to manage complex organisations filled with professionals who have conflicting values and interests" (quoted in Hunter 2008).

Woolhandler and Himmelstein (2007), also talking about the US healthcare system, went further, arguing that US for-profit health organisations "provide inferior care at inflated prices" (quoted in Hunter 2008).

APPENDIX G - INTERVENTION LADDER

NCoB (2007) produced an "intervention ladder" for possible government actions (figure 3).

- Eliminate choice (eg: compulsory measures)
- Restrict choice (eg: removing unhealthy foods from shops)
- Guide choice through disincentives (eg: taxes on cigarettes)
- Guide choice through incentives [72] (eg: tax-breaks for purchasing bicycles)
- Guide choice through changing default policy (eg: restaurants encouraged to provide salad as automatic sidedish rather than chips)
- Enable choice (eg: build cycle lanes)
- Provide information
- Do nothing

(Based on NCoB 2007 box 2 pxix)

Figure 3 - Intervention ladder of possible State actions.

Table 5 outlines some different approaches to childhood vaccinations (NCoB 2007).

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[72] "Incentive measures range from pleasantly non-coercive efforts such as offering to pay citizens if they will live prudently, to coercive measures such as threatening to fine them if they do not. Various non-coercive measures designed to facilitate healthful life-styles might include: providing jogging paths and subsidising tennis balls. Threats might include making all forms of transportation other than bicycling difficult, and making inconvenient the purchase of food containing saturated fats" (Wikler 1978 pp329-330).

POLICY	EXAMPLE
Voluntary - parents decide	UK, Sweden
Mandatory - eg: fines for non-compliance	Italy, Poland
Incentives for parents - eg: payment for vaccinations or withholding benefits if fail to vaccinate	Australia, Austria
Incentives for healthcare providers - eg: GPs' budgets	Ireland, UK

Table 5 - Four options for childhood vaccinations.

Since the beginning of 2016, Australia has had a "No Jab, No Pay" policy, where certain family assistance payments are linked to children being fully immunised (Fielding et al 2017). It is too early to say if this policy will be beneficial, but there are concerns about the impact on different social classes.

Using data for the State of Victoria, Fielding et al (2017) analysed immunisation coverage for the five years prior to this policy (2011-15) by socio-economic status. They concentrated on five vaccinations given before five years old. The lowest uptake of vaccinations was in the most deprived areas, which means that the "No Jab, No Pay" policy "may result in further financial stress and hardship" for these individuals.

The researchers recommended a policy that reduces the barriers to immunisation for poor families, like transport to clinics, and paid time off work to take children to medical appointments (Fielding et al 2017).

G1. Adult Responses to Vaccination

In September 2009, after a fatality from "swine flu" (A(H1N1) influenza) in Sweden, that country's government introduced a free mass vaccination programme for the disease with the assertion that "there is no rhyme or reason" for not vaccinating, except medical reasons (eg: allergy to the vaccine). Within a year, over 2000 individuals had been diagnosed with narcolepsy after the vaccination (Lundgren 2015).

Lundgren (2015) explored the response of laypeople to this vaccination and the decisions involved in uptake of vaccines generally using questionnaires.

Previous research on "vaccination hesitancy" and non-compliance found categories of motives, like "religious reasons", "free riding", "general distrust", and "divergent risk perception" (Lundgren 2015).

In relation to the Swedish swine flu vaccination programme in 2009-10, Bjorkman and Sanner's (2013) interviews with those among the 40% of the population who did not vaccinate found five main categories of motives -

"distinguishing between unnecessary and necessary vaccination", "distrust", "the idea of the natural", "resisting an exaggerated safety culture", and "injection fear". Bjorkman and Sanner (2013) concluded that a "prerequisite for taking the vaccine would be that people feel involved in the vaccination enterprise to make a sensible decision" (quoted in Lundgren 2015).

Lundgren (2015) analysed the sixty-six questionnaires replies of individuals who were part of the Lund Folk Life Archive project. Nineteen of them had chosen not to be vaccinated.

The reasons of those who had the vaccine were categorised as:

- "Self-evident choice" - eg: memories of previous pandemics; trust in medical authorities;

- "Solidarity reason" - vaccination was presented by the Government as protecting others as well as the self;

- "Being in a risk group";

- "Fear of falling ill";

- "Doing it although in doubt";

- "Advice from healthcare.

But compliance was not necessarily without its tension. For example, one woman said: "I was vaccinated although I was against it, but I felt forced to because I work with cancer patients" (p110).

The motives of the individuals who refused vaccination were complex, and included a combination of responses, like "too old"/not caring, afraid of side effects, the threat is overexaggerated (by the media), and "pharmaceutical companies are the winners". Table 6 gives examples of responses.

RESPONDENT	QUOTE
Woman in 70s	I did not vaccinate. My husband had the opinion that Sweden was struck by a vaccine-hysteria through all the media attention, and this attention was not relevant. I was partly influenced by his thoughts, and partly because the danger did not seem as great at the end of December 2009, and this was also according to the media (p110)
Woman in 50s	The media really have made too much noise, I think. Some say that we will wipe out our immune defence for years to come; that sounds very horrifying if it is true. But the truth is that it is not tested enough and we cannot know if this will have consequences. "Only time will tell" will be true in this case (p110)
Main in 60s	I thought the whole story about the swine flu seemed like something from an American movie. Everything – from statements that one half of the Swedish population would be wiped out to rumours about the mess of corruption between WHO and the pharmaceutical companies. Time will tell, that's how it is. The shareholders earned billions. Today nothing is mentioned about the swine flu, but the money has reached its destination (p111)
Man in 70s	Then one paper after the other will blow up the story until it can travel by itself and people will rush to the GP to get a shot. In today's "The Independent" I read that the pharmaceutical companies have made millions selling vaccines, and that is the most important thing. My opinion is that media of all kinds and the pharmaceutical companies are to blame and that the authorities just agreed without realising the harm they caused (p111)

Table 6 - Examples of reasons for not being vaccinated.

APPENDIX H - NUDGES

Nudging has key characteristics (Peeters and Schuilenberg 2017):

i) Changing the "choice architecture" (ie: environment) - eg: smaller plate sizes in self-service buffets; making smoking areas unattractive.

ii) A "positive, injunctive norm" is more effective than a negative informational one - eg: offer healthy food choices rather than warnings about unhealthy foods.

iii) Individuals are "not always able to choose what yields the greatest happiness or best experience... People fail to choose optimally, either because they overstate immediate relative to long-term prospects, develop all kinds of harmful habits, or copy the behaviour of others in their social group, even if this behaviour is detrimental to their health or safety"

(Peeters and Schuilenberg 2017 p142).

Peeters and Schuilenberg (2017) took a critical stance on nudges and nudging, particularly its use in "biopolitics" (Foucault 1976) (ie: "the governing of populations by using disciplining and regulatory techniques"; Peeters and Schuilenberg 2017) (or what Miller and Rose 2008 called "governed at a distance"). In fact, Peeters and Schuilenberg (2017) went further, and called it "mindpolitics".

Concentrating on recent Dutch public health policy, Peeters and Schuilenberg (2017) outlined four stages in the development of "mindpolitics":

i) Before 1983: rational persuasion/individual responsibility - eg: public information campaigns to raise awareness of individual's responsibilities.

ii) Between 1983 and 1990: welfare emancipation of vulnerable citizens - eg: encouraging the development of the healthy individual through education mostly (but also some regulation).

iii) Between 1991 and 2002: regulations and limitations - regulation becomes more important than education.

iv) After 2003: management of choice.

Nudging is "mindpolitics" because the concentration is upon psychological interventions to influence the choices made about lifestyle which "focus on 'how' the human mind works" (ie: "nudging seeks to 'outsmart' the unconscious mind, while enabling individuals to use their freedom by promoting positive values of health and self-efficacy..." (Peeters and Schuilenberg 2017 p152) [73].

H1. Smoking Cessation Incentives

Jarvis and Wardle (1999) estimated that smoking

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[73] "Mindpolitics is a thoroughly liberal technique of government. This is consistent with Foucault's analysis of biopolitics, but what is striking here is the paradoxical combination of population-level objectives and an individualised 'active ingredient', ie: individual choice. Mindpolitics stresses the opportunity of choice, allows for the free circulation of commodities (unhealthy products are rarely banned), and is often inspired by economic objectives such as workforce productivity or welfare state expenditures. Moreover, mindpolitics assumes that legitimacy of state intervention follows more easily from citizen's self-imposed restrictions than from a disciplining or moralising state. However, it is also true that free choice is being made instrumental to political objectives. This makes it increasingly difficult to separate freedom – as it is expressed by individuals in the private and public domain – from the realm of politics, where individuals are subordinate to collective action" (Peeter and Schuilenberg 2017 p154).

accounts for more than half the difference in life expectancy between the richest and poorest members of society.

Increasing the price of cigarettes can reduce consumption, particularly among young, and poorer individuals. So, financial incentives to quit could prove a useful strategy (Marteau and Mantzari 2015).

For example, Halpern et al (2015) trialled four incentive schemes with employees, friends and families of a large US company. Individuals were rewarded for cessation or they deposited a certain amount of their money which was refunded for cessation, and there were equivalent small group conditions, where the six members were rewarded for collective success. Participants preferred rewards to deposits, with quit rates after six months of 15.7% and 10.2% respectively (compared to 6% in the control group) (Marteau and Mantzari 2015).

Marteau and Mantzari (2015) noted some issues with this study, and incentive schemes generally:

- Relapse six months after the incentives stopped was about half.

- The problem of "gaming" with financial rewards - ie: "faking being a smoker to qualify for enrolment on the scheme or being a non-smoker to remain on a scheme" (Marteau and Mantzari 2015 p41).

- Would schemes offering non-financial incentives be better?

- Concerns about fairness, which include "coercing the vulnerable", "rewarding the feckless", and "not rewarding the responsible" (Marteau and Mantzari 2015). This fits with individuals being "funny about money" (ie: the general acceptability of financial incentives to change certain behaviours). Sandel (2015) referred to the idea of "money out of place" to describe the unacceptability of financial schemes for certain behaviours (Marteau and Mantzari 2015).

APPENDIX I - MENU PSYCHOLOGY

As a reaction to the growth of obesity, pressure has been put on the restaurant industry to change its behaviour - eg: reduce portion sizes; include calorie information on menus. Sometimes, regulatory action has enforced these practices, and so restaurants are put "in a position where they might become either reactive or defensive" (Wansink and Love 2014 p137).

Wansink and Love (2014) proposed an alternative, whereby restaurants could help customers make healthier food choices and profit from it. They talked of "menu psychology", where the format and presentation of the menu can shift attention, enhance taste expectations, and increase perception of value.

1. Shifting attention - eg: make healthier food choices more convenient to see on the menu with contrasting font, size or colour. For instance, Lohse (1997) reported that individuals paid more attention to advertisements with graphics and in colour when viewing a selection of advertisements in a magazine.

Other aspects of the menu include the "anchor", where the price of a prominent item sets the norm, and the position on the menu (eg: items at top and bottom of columns sell better, except for the bottom left side - "menu Siberia"; Poundstone 2010). "Engineering a menu so that the first foods a person sees or selects are healthy can set the tone for their entire meal" (Wansink and Love 2014).

2. Enhance taste expectations - eg: "succulent fish" better than simply "fish" (nearly one-third greater sales; Wansink and Love 2014). It seems that "post-consumption evaluation seems to generally be assimilated with prior expectations. If one thinks it will taste good, it probably will taste good. If one thinks it will taste bad, it probably will taste bad" (Wansink and Love 2014).

Wansink et al (2001) analysed 373 descriptive menu items, and that the following names could be used to engineer taste expectations for healthier foods - sensory names (eg: "crispy snow peas"), geographic names (eg: "Georgia peach tart"), nostalgic names (eg: "grandma's homemade chocolate cake"), and brand names.

3. Increased perception of value - eg: more sales with "£5" than "£5.00" as menu style; include multiple items in the price.

APPENDIX J - HUMAN RIGHTS

The trial of "Nazi doctors" after World War II showed how bioethics and human rights are deeply intertwined, and in a global context the intersections are "more numerous and more profound" (Fenton 2015).

But what is the relationship between bioethics and human rights? Fenton (2015) offered two perspectives:

a) An "intimate relationship" between the two - "human rights provide a ready-made language and framework for navigating complex cultural and religious differences that arise when ethical issues cross borders;... as a 'lingua franca that can both facilitate and broaden international bioethics discourse' (Knowles 2001)" (Fenton 2015 p72), or "the best, if not the only available grounds for the development of international legal standards for biomedicine" (Andorno 2009 quoted in Fenton 2015).

This approach has been criticised as bioethics are "too often approached through abstractions rather than through concrete realities; problems are analysed in terms of the 'mythical figure of the autonomous subject' [Ashcroft 2008] and individual values and preferences, abstracted from the social context in which those individuals actually live" (Fenton 2015 p75). Chief here is poverty and its reality, argued Farmer (eg: 2008), "who loses patience with endless theorising or philosophising about human rights, hand-wringing about cost-effectiveness, and repetitive data collection" (Fenton 2015 p75).

b) A rights-based approach is "just one lens through which to view issues of social justice in bioethics" (Fenton 2015).

The emphasis on universal human rights can overwhelm local values, and "human rights, far from being 'neutral' with respect to foundational issues, are in fact rife with presumptions and theoretical commitments that many find objectionable" (Fenton 2015 p76).

Mason-Meier et al (2012), for instance, argued for "collective rights". In a situation of scarce resources, there is "balancing the rights of the sick to receive treatment against the rights of the well to be protected from disease. This is a significant shift that captures the complexities of prioritisation problems, in which, under ubiquitous resource constraints, not all health needs can be met" (Fenton 2015 p81).

APPENDIX K - BALAFOUTAS ET AL (2011)

Balafoutas et al (2011) took 174 taxi rides in Athens in three conditions - a Greek speaker who stated unfamiliar with city (non-local native), a Greek speaker (local), and an English speaker (foreigner) (assumed to be unfamiliar with the city). The researchers also varied the perceive income of the traveller - ie: dressed in suit or casual clothes - but always male in late 20s. Fifteen different journeys were taken between 8 am and midnight over a two-week period.

The three following hypotheses were tested:

1. Non-local native and foreigner passengers will be taken on longer journeys than local passengers. This was found to be the case, with an average of 1 km in 12 km detour.

2. Foreign passengers will be overcharged more than Greek speakers. This is where the correct distance was travelled, but an expensive tariff was applied (eg: night-time during the day). Overcharging occurred in 20% of rides for foreigners compared to 5% of non-local natives ($p<0.05$).

3. High-income passengers will have longer journeys and be overcharged more than low-income passengers. This was supported by the data.

APPENDIX L - GINO AND WILTERMUTH (2014)

Experiment 1 ("Cheaters are creative") - 153 individuals performed three tasks which measured creativity [74], and on one of them it was possible to cheat to gain a better reward. Around 60% of participants cheated, and they were significantly more creative than non-cheaters.

Experiment 2 ("The act of cheating enhances activity") - 101 US students were randomly assigned to the opportunity to cheat condition (ie: could see answers) or a control condition when answering general knowledge questions before completing a creativity task. Fifty-one of 53 participants in the opportunity to cheat condition did, and their performance was significantly better on the creativity task than the control group.

Experiment 3 ("Breaking rules with and without ethical implications") - 129 participants completed anagrams where they could lie about how many they got correct to gain a reward. Cheating was encouraged by telling the participants that a high number was average in the likely-cheating condition (eg: >10 anagrams solved in three minutes) as opposed to lower in the control condition (eg: <5 solved). Forty percent of the participants in the likely-cheating condition did cheat, and their performance on subsequent tests of creativity was significantly higher than non-cheaters and controls.

Experiment 4 ("Feeling unconstrained by rules") - 178 participants had the opportunity to cheat on a game guessing a virtual coin toss before a test of creativity and a questionnaire about obeying rules. Cheaters were more likely to report caring less about rules and were more creative. The researchers felt that the results "provide evidence that feeling unconstrained by rules

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[74] The main measure of creativity was the Remote Association Task (RAT) (Mednick 1962), which involves finding a connection between three words - eg: sore, shoulder, sweat (cold). There are seventeen items in five minutes (table 7) (Gino and Wiltermuth 2014).

underlies the link between dishonesty and creativity" (Gino and Wiltermuth 2014 p777).

Experiment 5 ("Evidence for mediation through moderation") - 208 participants were assigned to one of four conditions based around two independent variables. One independent variable was the opportunity to cheat or not in a game of guessing the virtual dice roll (either report their guess beforehand (transparent) or not (opaque)). The other independent variable was a reminder of rule-breaking or not (through a memory test on certain words). A test of creativity was also involved. Participants were more creative in the transparent/rule-breaking prime condition than the transparent/neutral prime condition (while there was no difference between the two opaque conditions), which provided "evidence that acting dishonestly makes people feel unconstrained by rules, and that this lack of constraint enhances creative behaviour" (Gino and Wiltermuth 2014 p779).

Experiment	Cheaters	Non-cheaters
1	9	5.8
2	6.2	4.7
3	6.9	5.5
4	9.5	7.9

Table 7 - Mean RAT scores (out of 17) in Experiments 1-4.

Gino and Wiltermuth (2014) concluded: "In sum, this research shows that the sentiment expressed in the common saying 'rules are meant to be broken' is at the root of both creative performance and dishonest behaviour. It also provides new evidence that dishonesty may therefore lead people to become more creative in their subsequent endeavours" (pp779-780).

APPENDIX M - MORAL AWARENESS

In terms of the recognition of a moral issue, Reynolds and Miller (2015) noted three constructs emerging from the research:

i) Moral awareness - "an individual's determination that a single situation contains moral content" (Reynolds and Miller 2015 p114).

ii) Moral or ethical sensitivity - a wider awareness of moral issues.

iii) Moral attentiveness - "the extent to which one chronically perceives and considers morality and moral elements in his or her experiences" (Reynolds and Miller 2015 p114).

Reynolds and Miller (2015) summed up the constructs thus: "moral awareness refers to an event experienced by the individual, moral sensitivity refers to the individual's skill at regularly achieving moral awareness, and moral attentiveness captures an innate tendency to perceive issues as moral issues" (p114).

Recent research on these constructs can be grouped into three (Reynolds and Miller 2015):

- Biological - eg: neuroimaging of brain activity.
- Psychological - eg: perceiving and processing of information.
- Socio-cultural - eg: context of moral decisions.

Reynolds and Miller (2015) noted four issues for future research in this area:

a) Greater construct clarity.

b) Differences between implicit and explicit moral recognition.

c) The interaction of biological, psychological, and socio-cultural factors.

d) The relationship between moral recognition and actual moral behaviour.

APPENDIX N - GINO AND GALINSKY (2012)

Gino and Galinsky (2012) manipulated psychological closeness in four experiments.

Experiment 1

One hundred and three US students were assigned to take the perspective of a person who had been selfish in an experiment or not, and this was done by writing an essay about that person's day or their own day. The experimental task was sharing some money, which the selfish person did not, and participants were asked how much they would share in the same situation. Participants in the perspective-taking condition said they would keep significantly more money for themselves than the participants in the control group (mean: $6.59 vs $5.46 out of $10).

"These findings provide evidence that psychological closeness - in this case manipulated through perspective taking - leads people to report they would follow the example of one bad apple" (Gino and Galinsky 2012 p19).

Experiment 2

One hundred and forty-seven more US students wrote a short essay about working with others (interdependent condition) or working alone (independent condition) before reading the scenario about the selfish person from Experiment 1. The difference was that the person described was either identified with a picture or not. Participants in the interdependent condition said they would keep more money if the wrongdoer had been identified than unidentified.

"Thus, an interdependent mindset combined with an identified miscreant created a toxic brew of selfish intentions" (Gino and Galinsky 2012 p21).

Experiment 3

Eighty-two more US students were led to believe that they shared the birthday month and the school year with a cheating confederate on a task that they then performed (shared attributes condition) or did not share the attributes (control condition). The task was apparently not monitored and the participants could cheat about their performance to gain a small monetary reward.

It was found that the amount "by which participants overstated their performance was higher in the shared-attributes condition than in the control condition..., and the percentage of participants who overstated their performance was also higher (64.3% vs. 37.5%...)" (Gino and Galinsky 2012 p22).

Experiment 4

This experiment was different to the others because it tested whether psychological closeness worked for pro-social behaviour. Two hundred and nine students performed a version of Experiment 1, but they read about an individual who was generous. Participants reported that they would be more generous in the perspective-taking condition, but "the effects of psychological closeness were stronger when the target was selfish rather than generous" (Gino and Galinsky 2012 p23).

One possible explanation for the behaviour in the experiments is self-expansion theory (Aron and Aron 1986), which proposes that "people's sense of self can be broadened to include others, and that this is likely to occur when others are people we feel close to" (Gino and Galinsky 2012 p16). The upshot is the tendency to imitate those we feel psychologically close to.

APPENDIX O - BAEZ ET AL (2017)

Baez et al (2017) observed that in "civilised social niches, individuals tend to attach greater importance to intentions than to outcomes in judging the morality of an action. Actions aiming to induce harm, regardless of their success, are typically deemed less morally permissible than those in which harm was neither intended nor inflicted, or merely accidental" (p1). But these researchers found that "moral judgment in terrorists is abnormally guided by outcomes rather than by the integration of intentions and outcomes" (p1).

Baez et al (2017) interviewed sixty-six imprisoned members of an illegal armed paramilitary group (classed as terrorist) in Colombia, and 66 matched controls. The participants completed various questionnaires (eg: Motives for Aggression Inventory [75]), and undertook a moral judgment task based around "accidental harm". A story is told about an individual who believes one thing (intention), but this results in a certain effect (outcome). For example, "Grace" believes white powder in a sugar bowl is sugar, which she puts in a friend's coffee. But the powder is a toxic chemical and the friend dies. The researchers could vary the intentions and outcomes (table 8).

	INTENTION	OUTCOME
Neutral/neutral	Grace believes powder is sugar, and it is sugar	Friend unharmed
Negative/neutral	Grace believes powder is toxic, but it is sugar	Friend unharmed
Neutral/negative (*)	Grace believes powder is sugar, but it is toxic	Friend dies
Negative/negative (**)	Grace believes powder is toxic, and it is toxic	Friend dies

(* unintentional harm; ** intentional harm)

(Based on Baez et al 2017 figure 1)

Table 8 - Variations in moral judgment task.

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[75] This includes 26 items about triggers for aggressive behaviour - eg: you have to defend your ideas", "you cannot control yourself" (Baez et al 2017).

Baez et al (2017) commented: "our results support the proposal that terrorists can suppress instinctive and learned moral constraints against harming innocents, such as empathy, fairness and pro-sociality. This could be caused by intrinsic or acquired factors, and by individual or group forces. In addition, the profile observed in the terrorists may reflect their fixation on utopian visions whereby only (idealised) ends matter. That is, their outcome-based moral judgements may be related to the belief that any action can be justified" (p4).

APPENDIX P - DELAYING GRATIFICATION

Protzko et al (2017) asked 260 members of the Cognitive Development Society if they thought children had got better or worse at delaying gratification in the last fifty years. Only 16% believed it had improved compared to 52% who said that it had got worse. The remainder said "no change" or "unsure".

The ability to forego an immediate reward for a better one in the future is delaying gratification, and it is associated with positive life outcomes.

The "marshmallow test" is a common way to test children's ability to delay gratification. A child is presented with a marshmallow (or other treat) and told that they can have that now or two of them later when the experimenter returns. The child was told to ring a bell when they could not wait any longer.

Protzko et al (2017) performed a meta-analysis of studies using the marshmallow test to measure delaying gratification in the last fifty years. It was found that the children's ability to delay gratification had improved over time (ie: they can wait longer).

APPENDIX Q - MORAL SELF-LICENSING

Effron and Conway (2015) observed that studies "reveal that acting virtuously can ironically reduce future virtuous action. When people can point to actions or thoughts that attest to their good character, they often act like they have a license to stray from the straight and narrow path by helping less, cheating more, or enacting more prejudiced-seeming behaviour" (p32). This is moral self-licensing (MSL).

The researchers outlined two possible explanations - "good deeds may grant moral credits that can be 'exchanged' for the right to commit even blatantly bad deeds, or good deeds may establish moral credentials which make ambiguous behaviour seem less problematic" (Effron and Conway 2015 p32).

MSL has been studied mainly in laboratory experiments, but also in real life - eg: diary studies. Hofmann et al (2014), for instance, found that individuals who reported good deeds earlier in a day preferred fewer good deeds or more bad deeds later in the same day than individuals who did not do early good deeds.

MSL also occurs in situations of counterfactual transgressions, prefactual virtues, and vicarious virtues (Effron and Conway 2015). The first of these is bad things that an individual could have done, but did not. Individuals can exaggerate the "sinfulness" of the behaviour not performed - eg: dieters overstate the calories of desserts declined (Effron et al 2013).

Prefactual virtues refers to good deeds that individuals plan to do, while vicarious virtues refers to good deeds performed by one's ingroup member (table 9).

SITUATION	STUDY	FINDING
Counterfactual transgressions	Effron et al (2012)	White participants who had the opportunity to not perform a blatantly racist behaviour, later expressed less racially sensitive views that controls
Prefactual virtues	Cascio & Plant (2015)	Students who had pledged to donate blood later, expressed more overt prejudiced views than controls
Vicarious virtues	Kouchaki (2011)	After non-prejudiced behaviour by an ingroup member, individuals expressed more prejudiced views than controls

Table 9 - Three situations of MSL and examples of studies related to prejudice.

The alternative to MSL is "moral self-consistency", where "acting virtuously can increase... subsequent virtuous behaviour" (Effron and Conway 2015). They continued: "When a person interprets her behaviour as a signal that virtue figures prominently in her self-concept, then she is likely to act more virtuously in the future. Virtuous behaviour sends such a signal when it is costly or effortful to perform, when people have ample cognitive resources to think abstractly about values and identity, and when people reflect on their commitments to moral goals" (Effron and Conway 2015 p34).

APPENDIX R - QALYS AND DALYS

Quality-adjusted life years (QALYs) are "health state descriptors" - ie: the "levels of functioning in different aspects of health. A patient who has difficulties with mobility but no pain is in a different health state than a patient who has no difficulties with mobility but has frequent pain. A patient with severe depression is in a different health state than a patient who struggles with substance abuse. By specifying the levels of physical, psychological, cognitive, social or other kinds of functioning, any number of health states can be defined. These can also be used to describe the outcomes of different interventions. For this reason, health states are also called health outcomes" (Bognar 2015 p45).

Health states are evaluated by asking individuals to place a value on good health or poorer health. The choices are converted into numbers, and this is taken as the health-related quality of life. A QALY is "a combination of the health-related quality of life associated with health outcomes and the time spent with those health outcomes" (Bognar 2015 p46). It is also possible to calculate a health-adjusted life expectancy (HALE).

Disability-adjusted life years (DALYs) were developed by the World Health Organisation (Global Burden of Disease project; GBD) to compare the health of different populations in relation to 220 health states. There are two components calculated - years lived with disability and years of life lost due to premature mortality.

Bognar (2015) outlined three sets of ethical issues related to QALYs and DALYs:

i) Measurement - eg: the original sample determines the scores allocated. It has been found that "the general population considers many health outcomes worse than health professionals do, who in turn consider them worse than patients who live with those outcomes" (Bognar 2015 p50).

ii) Health resource allocation - Cost-effectiveness analysis will be used to set healthcare priorities, and returning to full health is always favoured. "Some patient groups, including people living with disabilities and chronic health conditions, may have a limited capacity to benefit compared with those who can be returned to full health. Thus, their treatment will be given lower priority. They will be unfairly discriminated against" (Bognar 2015 p51).

iii) Social and moral value - eg: age-weighting function means that a disease or injury is considered worse for an individual in their 20s than for an infant or an adult of retirement age.

"The researchers in the GBD project justified age weighting the following way. People are more productive in their young adulthood. They are more likely to be employed. They also contribute to social productivity in other ways: They often take care of their children and elderly parents. Hence the welfare of children and older people depends, to a large extent, on their contributions. This sort of welfare interdependence has a crucial role in society. In particular, the illness of a young adult is likely to negatively affect the welfare of others. Therefore, it should have more weight when the burden of disease is calculated. Age weighting was introduced to take welfare interdependence into account" (Bognar 2015 p53). Age weighting has been subsequently removed.

APPENDIX S - SOCIAL DETERMINANTS OF HEALTH

The World Health Organisation's Commission on the Social Determinants of Health in 2008 is key, and Venkatapuram (2010) argued that "the commission combined epidemiological analysis of health inequalities within and across countries with an essentially cosmopolitan ethical argument for motivating global social action to mitigate ill health and health inequalities. By doing so the commission brought together the consideration of scientific evidence, the centrality of global public deliberation to global health, and a view on global social justice" (p119).

Venkatapuram (2010) stated: "If social factors are identified as determining such significant aspects of human well-being as mortality and morbidity, the moral responsibility for ill health and health inequalities expands beyond the individual to include social institutions and processes. This serves as a rejoinder to decades of concerted efforts in some developed countries to exclude 'the social' from epidemiology and place the moral responsibility for health onto the individual" (pp127-128).

Venkatapuram and Marmot (2009) discussed two key ethical issues related to SDH:

i) Ethical issues related to the production of knowledge about health and the causes of ill health. "Moreover, in particular reference to epidemiology, whether a particular causal relationship between exposure and impairment is true or not may be independent to how we practise epidemiology, but the way a causal relationship becomes recognised as being true, and the recognition of the scope of the causal processes, are profoundly influenced by what we think are good epidemiological theory and practice" (Venkatapuram and Marmot 2009 p80). Science is a "social process" rather than simply a listing of discovered truths.

ii) Ethical issues related to social justice. "Health policies are profoundly political because they distribute significant and diverse benefits and burdens across individuals and groups. They are ethical in so far as justification is provided for why particular interventions should be implemented or indeed, should not be implemented" (Venkatapuram and Marmot 2009 p85).

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