The design of a public health ethics framework in support of the objectives of a public health agenda

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Health research without a link to daily practice remains fruitless. Indeed, it proves to be inspiring to practise what you preach (Schrojenstein, 2016: 215).

… it demands determined efforts to show leadership and improve stewardship and management in the health system and to ensure that sound health policies and social policies are both developed and implemented (Coovadia, Jewkes, Barron, Sanders & McIntyre, 2009: 832).

Abstract

As a general observation one can claim that although the public health agenda has been set, a shortcoming is the lack of a supportive ethics framework. This observation is based on, amongst others, a former Director-General of the World Health Organisation's (WHO) Report on public health (2017) and advice given what the priorities are for the new WHO Director-General to address health challenges in Africa.

For a public health ethics framework to be promoted, the authors first determine the scope in terms of what public health is, and then discuss public health ethics. The research design is based on a qualitative research approach to describe phenomena and to apply them to practice.

Following from a literature review, the study defines public health as strategies and preventions to promote, secure and sustain quality of health and well-being based on a public health value chain. The value chain is further defined to emphasise the integrated role of ethics in the health system. This definition is in line with the global move towards preventative healthcare.

The literature review informing public health ethics concludes that public health ethics can be defined as the values informing the public health value chain to secure quality of health and well-being.

The study highlights five specific foci for public health ethics, namely that public health ethics should identify values to address community health problems; that it should advocate the overarching value of community health and social justice; that there should be skilled workers who have knowledge and skill to deal with dilemmas in public health; that it should participate in effective healthcare delivery; and that professional behaviour is required since healthcare practitioners have to act in a virtuous way. Public health ethics should promote equality and access, safety and security, individual interest and responsibility, and economic freedom.

The study contributes further towards the discussion what input can a Christian-informed public health ethics make towards such a framework.

Keywords:

ethics, social determinants in public health, public health, public health ethics, World Health Organisation.

1. Background comments

Christian medical ethics and bioethics are not new. Typical of a Christian approach to the beginning of life, the ending of life, illness, health, supportive interventions and therapies and the appreciation of new technologies and medicines will be the value of life, the respect and therefore the protection of life, the understanding of health and illness and the meaning of life and existence from a Biblical perspective. The doctor-patient and nurse-patient relationships are based on respectful interpersonal relationships, the dignity of practitioner and patient and the shared view that life is holy and therefore calls for respect, protection and improving values associated with life as far as possible. Christian medical ethics and bioethics are further informed from a Reformed-theological perspective. Here are several models at work of which the *responsibility model* (J. Douma) and *kingdom* or *obedience model* (J.A. Heyns) are well-known for their impact on Christian medical ethics and bioethics. The essence of these models finds their origin in a Biblical foundation and creation order where a person is called to care for life, that of him / herself, to bring salvation, mercy and justice to a broken world, to live the redemption of Christ regardless where health and life are challenged and understand life in the context of internal life. Salvation, mercy and justice are brought to a fallen world by not simply accepting human challenges as they are, but to seek the holiness of human existence despite all the human challenges there are. This is only possible through the redemption in Christ. Although the Christian paradigm in medical ethics and bioethics are declining, Schotsmans (2012) upholds the convincing perspective that it is not so much about representing a majority view on life and health but more the engaging perspectives that follow from a Christian approach to medical ethics and bioethics.

Therefore, although the Christian paradigm in medical ethics and bioethics is not new, it appears that a similar approach and therefore perspective is not prominent (at all) in public health ethics. This claim is based on a Google Scholar search of the topic together with a close analysis of public health ethics. The assumption is, however, that the values already identified for a Christian informed medical ethics and bioethics can be part of a Christian informed public health ethics too.

Following from this assumption, is then the contribution that a Christian informed public health ethics can make towards the development of a public health ethics framework to accomplish this contribution, public health ethics should first be understood and contextualised given it role in upholding the health and well-being of a community. After this matter has been addressed, the focus will be on what indicators can be defined from a Christian-informed public health ethics framework.

2. Orientation: the central role of public health ethics

In a recent edition of *The Conversation*, four African scholars, Githeko, Mash, Daniels and Mwangi, offer advice to the newly appointed Director-General of the World Health Organization (WHO), Dr Tedros Ghebreyesus, in tackling health challenges in Africa, in particular HIV/AIDS, malaria and the increasing incidence of non-communicable diseases. In their comments on what needs to be in his "toolbox" to heal health ills, their guidance relates to (a) funding and supportive resources to address communicable diseases; (b) attendance to neglected primary care matters such as hypertension and diabetes; (c) improvement of healthcare systems and the introduction of enabling healthcare policies; (d) research to find evidence-based solutions; and (e) training to deal with these problems.

Their comments are linked not only to his campaign manifesto, that is, for everyone to live a healthy life regardless of where they live (Githeko *et al.,* 2017), but also to the global need for "health for all" as stated in the Constitution of the World Health Organisation (WHO) Principles: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (WHO, 1946).

The advice from Githeko *et al.* (2017) may be contextualised in the domain of public health, namely to bring *well-being* to a society. Their emphasis is on a multi-disciplinary approach supported by team work, partnerships, comprehension of a broader impact of communicable and non-communicable diseases and the understanding of policy and community support to realise the drive towards "health for all." These objectives are in line with what the WHO defines as public health. Public health is "The science and art of promoting health, preventing disease and prolonging life through the organised efforts of society" (WHO, 1998: 3).

What should be added to the "toolbox" suggested by Githeko *et al*. is the need for a supportive public health ethic to deal with inequality in access to healthcare, challenges from a human rights perspective, insufficient healthcare support systems and to deal with those social determinants impacting on the health of a society in general and communities in particular. The motivation for a supportive public health ethic is grounded in the general claim that all people must have an equal right to the opportunity to be as healthy as possible, access to healthcare and prevention from becoming sick (London, 2017: 18).

Although no one will dispute the important role of ethics in healthcare, it cannot be generally accepted that the role of ethics in public health is well developed. This observation is also evident from Chen, the outgoing WHO Director General (2017) in her Report on Public Health (2017). Although ethics is stated as a common goal in public health, the active drive towards a supportive framework is still very much underdeveloped. Ten Have, Ter Meulen and Van Leeuwen (2013: 349) make a similar observation. They argue that although public health is not new, an informed public health ethic is still emerging due to the ongoing developments in bioethics.

These authors draw attention to a major problem, namely that efforts to improve public health, including the allocation of a budget, are not sufficiently directed towards the poor and their needs as reflected in the Millennium Health Goals. This comment raises ethical concerns. What is more, they identify a number of challenges associated with public health such as pandemics (e.g., bird flu), food security (e.g., mad cow disease), bio-security (e.g., bio-terrorism), and the need for humanitarian support (e.g., after tsunamis and earthquakes). A relevant deduction is that there are not sufficient ethical guidelines to deal with these health challenges. Consider the following hypothesis: Bird flu mutates to such an extent that a human flu virus similar to the Spanish flu in 1918 prevails. Ethical concerns such as the following arise: Will there be sufficient vaccine available? Can it be manufactured quickly enough? Who receives treatment first in case there is not enough vaccine available? Elderly people who are vulnerable or (young) citizens who have to keep the economy going? Which categories of workers? The questions are endless. Ten Have *et al.* (2013: 352) summarise the challenge by noting that while the focus of public health should be more on prevention, this focus can never escape the moral dilemma of balancing the individual's interests with those of the group or community.

From these comments, a general conclusion may be drawn that although a broad-based agenda for public health is set, a purposeful addition will be the design of a public health ethics framework in support of the objectives of a public health agenda. A first approach would be to understand what public health ethics is and then to conclude what specific perspectives can be added from a Christian paradigm.

3. Research design and method

The research method for this study is grounded within the broader domain of a *qualitative study*, characterised by validity, practicality and effectiveness (Maree & Van der Westhuizen, 2008: 38). Silverman (2006: 282-291) discusses validity, saying that there are no spurious correlations, they are authentic and reliable (independent of accidental circumstances). To him this method is very much descriptive (non-experimental). Silverman (2006: 43) remarks: "The main strength of qualitative research is its ability to study phenomena which are simply unavailable elsewhere." Following Hammersley (1992), he continues by stating that the value of qualitative research is that it is flexible and reflects on what people are doing. Qualitative research studies reflect on process and outcomes, meaning and causes. The application value of the research problem is the meaning it brings to practitioners and administrators. Qualitative research is therefore applicable to real life situations (Silverman, 2006: 349-351). The comment that qualitative research is seen as a valid description of a phenomenon or activity and that it can be applied to practice, will be applicable to this study.

In a qualitative study, a literature and document review may be defined based on Trafford and Leshem's (2012: 68-74) idea of literature, namely that it is "a specific body of knowledge … that is recognised by its respective users", it is identified by the researcher, yet it has a "recognisable identity when someone explains its corpus" and is explained through the researcher's lexicon and paradigms. The literature review can therefore not be isolated from the broader knowledge base: it has to engage with what is available on a topic and the analysis and reflection have to contribute to deepening the knowledge base. Tilley (2016: 58) acknowledges that documents that contribute towards historical and/or contextual knowledge "are useful data".

Our preference goes to Mouton (2001: 78), however, who refers to a scholarly review rather than a literature review. The scholarly review refers to how other researchers have interpreted and dealt with a particular research problem within a body of knowledge. The literature review, on the other hand, is influenced by personal orientations and perspectives (formed by scientific traditions, evidence-based research and world and life view).

In this study will we build on Mouton's (1996: 10) approach of the "three worlds": *meta-science* (critical interest – to understand the world of science), *world of science* (epistemic interest – to understand reality), and the *world of everyday life* and lay knowledge (pragmatic interest). Through the literature review, patterns in the knowledge base will be identified. The approach will be multi-disciplinary. Multi-disciplinary refers to the interaction between two or more distinct disciplines to formulate a new perspective (Kokt, Lategan & Orkin, 2012: 141). For purposes of this study the literature review will reflect on what is available in the literature and not merely share the existing knowledge base.

The approach we will follow in qualitative research is based on *epistemology* (how knowledge is viewed), *ontology* (views on being/existence), *axiology* (views on what is right/good and wrong/bad) and *methodology* (views on how to do research). The Christian paradigm will be an underlying perspective in the epistemology, axiology and methodology.

The *research question* may be labelled as an exploratory research question (Jansen, 2008: 11) namely "*What is public health ethics?"* It can also be supported by an explanatory question, *"Why do we need public health ethics despite the existence of medical, bioethical and healthcare ethics, protocols and statements?*" (Jansen, 2008: 10). This can be supplemented by the *statement of purpose,* namely the identification of a public health ethics framework for South Africa.

The *central focus* of this study is the argument that although ethics is evident in public health, it can be regarded as an emerging focus in promoting public health as field of study (on a scientific basis) as well as the practice of public health (as a policy intervention).

To justify these claims, a deeper understanding on the *scope* and *practice* of public health is required. The next two sections will deal with these topics.

4. What is public health?

4.1 Literature review

In conceptualising what public health is, the following semantic claims can be presented:

The **WHO's** definition of public health is very idealistic. In the 1988 "Future of Public Health" document the emphasis is placed on what healthcare practitioners can do. Hence the following definition: "The field of public health is concerned with health promotion and disease prevention throughout society. Consequently, public health is less interested in clinical interventions between health care professionals and patients, and more interested in devising broad strategies to prevent, or ameliorate, injury and disease" (World Health Organisation, 1988: 13).

Berridge (2016: 2) argues that public health is a very wide concept. Public health has two sides – it is a profession and also a body of knowledge (Berridge, 2016: 69). The concept certainly exists beyond a single definition. In defining public health, Berridge comments on a very important point, namely that time and context influence the way in which public health is defined. One should therefore think along the lines of stages in public health. Examples are the medicalisation of society or the extension of the state's power over its citizens (Berridge, 2016: 4-6). Public health is amorphous since it is "defining itself around whatever activities it undertook at a particular point in time" (Berridge, 2016: 105). As a result, public health can even be changed to health improvement and well-being (Berridge, 2016: 105). In its narrowest sense, public health refers to a) the health of a population, b) the longevity of individual members and c) the freedom from disease (Berridge, 2016: 2). It also has an anticipatory character: geared towards the *prevention* of illness rather than the *provision* of health and well-being. It also deals with healthy and sick people (Berridge, 2016: 2).

Childress, Faden, Gaare, Gostin, Kahn, Bonnie, Kass, Mastroianni, Moreno and **Nieburg** (2012: 361) say that public health "aims to understand and ameliorate the causes of disease and disability in a population" and "public health involves interactions and relationships among many professionals and members of the community as well as agencies of government in the development, implementation and assessment of interventions." They refer to the Institute of Medicine's (1988) definition, namely that what "we, as a society, do collectively …" The emphasis is on cooperative behaviour and relationships built on "overlapping values and trust" (Childress *et al.,* 2012: 362). It is difficult mapping the terrain of public health, since the focus in

public health ranges from immunisation, anti-smoke campaigns, seat-belt legislation, motorcycle and bicycle helmets and swimming pool fences to occupational and community health, for example.

Ten Have *et al.* (2013: 349-350) identify three characteristics of public health: a) public health focuses on the health and quality of life of the entire population; b) public health includes lifestyle, living conditions, environmental conditions and socio-economic determinants for health and care; and c) the focus of public health is on the group and not the individual. They continue to say that illness, health and care should be linked.

Horn (2015: 26) comments that there is general agreement that public health deals with the health of communities and is delivered by government or organisations rather than by individuals. What is often contested is the scope of public health. An analysis of some definitions of public health leads to the basic conclusion that public health is "some form of organised or collective effort undertaken to promote the health of a community or population, particularly by preventing disease" (Horn, 2015: 27). Horn (2015: 27) further outlines the fact that a broad-based egalitarian approach blurs the boundaries between individual healthcare and service-provision measures such as housing. She concurs that government has to provide key services and establish the rules for public health. Horn argues in favour of a moral basis for public health in line with the growing voice in favour of social justice. Two moral impulses animate public health: improve human well-being by improving health, and focus on the needs of those who are most disadvantaged (Horn, 2015: 28). Of interest for this study is her emphasis on the health of societies and communities, that public health is a task for government and relevant organisations, a moral foundation, in particular in low-income or otherwise vulnerable communities, and a scope that can include things like domestic violence and foetal alcohol syndrome (Horn, 2015: 29) caused by alcohol use during pregnancies.

Holtz (2013: 13) aligns her definition to the 1948 Universal Declaration of Human Rights where a standard of living adequate for health and family is promoted. This includes medical care and the rights to security in the event of sickness, disability or lack of livelihood. Health should be extended beyond healthcare to include preconditions for health such as water, sanitation and nutrition. She continues to argue that public health cannot be understood apart from global health. Global health is defined as health issues that transcend national borders. It has a global, political and economic impact. Countries can learn from each other: "Global health takes into account the health of populations in a worldwide context and includes perspectives and

health issues of all individual nations. Health problems transcend national borders and have a global political and economic impact" (Holtz, 2013: xxi). Global activities such as sales strategies of international tobacco companies, pharmaceutical companies and international travel have an influence on global health issues for example HIV/AIDS and pollution (Holtz, 2013: 4). She further contextualises it against the important role of primary healthcare. From the "Alma-Ata Declaration" (1978) it is clear that citizens cannot provide public healthcare themselves and therefore need governments to assist. In this declaration three requirements for member states are identified: a) ensure political commitment to strengthen health; b) strengthen access; and c) put people at the centre through effective delivery modes (Holtz, 2013: 5). Following from a renewed "Alma-Ata Declaration" (2005) the influence of social determinants and health disparities is evident. Health disparity can be defined as "persistent gaps between the health status of minorities and non-minorities that continue despite advances in health care and technology" (Holtz, 2013: 11). Adequate health care will promote social stability and economic growth. Adequate criteria include a) equitable access to health care for prevention and treatment, (b) affordability, and (c) sustainability (Holtz, 2013: 13).

Kass (2001: 1776) defines public health as a social approach to protecting and promoting health. Through social rather than individual actions, the well-being of communities is sought.

Johns Hopkins Bloomberg School of Public Health follows a very pragmatic approach in defining public health. Where the clinicians treat diseases and injuries of one patient at a time, public health researchers, practitioners and educators work with communities and populations. Public health will identify causes of disease and disability and will implement largescale solutions. A relevant example is that instead of treating a gunshot wound (clinical intervention), public health will identify the causes of gun violence and develop appropriate interventions to deal with this matter.

Holland (2012: 359) refers to public health as the protection and promotion of a population's health. Public health has therefore a population or community perspective.

Khan (2015: 1-2) advocates a broad-based understanding of public health. Dealing with a disease such as Ebola requires not only public health but also *food* (security and nutrition), *wildlife management* and *environmental affairs*. Food security and human development are big challenges. In food security the emphasis is often on export regulations and not local use/produce. Migration and urbanisation are often challenges to sustaining public health. It

is for this reason that he argues for a holistic approach: “Efforts are required for ecosystem monitoring, social and cultural norms that are consistent with medical best practices and institutional partnerships for health research to prevent future outbreaks” (Khan, 2015: 3).

4.2 Discussion

Based on these semantic claims, the conclusion is that *public health refers to strategies and preventions to promote, secure and sustain quality of health and well-being based on a public health value chain*. In public health the focus is on the group / community / population and its health. These strategies and preventions are aimed at *health promotion* and *disease prevention* in the group or the collective.

Although the focus is on the group or the collective, this does not mean that the individual has no role, benefit or responsibility. The benefit lies in *equality of access* to medical facilities (hence health as justice), *safety* of product and interventions (hence promotion of health) and the *creation* of a healthy society (hence an enabling environment). In public health the focus is on *collaboration* and *participation*. The individual needs to be responsive through a lifestyle evoked by the strategies and interventions and as a spontaneous reaction sparked by responsible citizenship.

Public health is always directed towards humanity. Service delivery and a moral basis can therefore not be removed from promoting strategies and preventive actions.

The public health value chain is based on access to healthcare, a quality habitat (consisting of social, environmental, work and living spaces conducive to good health), leisure as self-care, effective service delivery and the improvement of health as justice.

Based on the summative semantic claims promoted on the basis of the literature review, the context and practice of public health will now be reviewed.

5. The context and practice of public health

Following on the conceptual analysis a brief overview of the practice of public health can assist in preparing the discussion for the role ethics can play in public health.

5.1 Margaret Chan: a perspective from the World Health Organisation

Margaret Chan was Director-General for the WHO from 2007-2017. At the end of her tenure as Director-General she published a report on public health. From this report three important developments can be identified that have contributed to health improvement. These developments are around the shift (a) to primary healthcare to build capacity through existing healthcare systems (or whatever system is available), policies and budget, (b) to primary healthcare as instrument to avoid waste and improve efficiency; and (c) to the role social determinants can play to improve public health. The new thinking is that social determinants, and not physical challenges only, contribute to ill health. Social determinants cannot be ignored in strategies to improve health.

These three developments have contributed towards a paradigm shift in rolling out healthcare.

To substantiate this claim: through the Millennium Development Goals the major health challenges, AIDS, malaria, tuberculosis, maternal and childhood morbidity, were addressed.

The emphasis in the Millennium Development Goals is on sustainability across the spectrum of communities. The view was that sustainability must be supported through well-functioning health systems and a supplementary budget. The challenges, however, were human capacity, integrated systems and budget. This contributed to a growing inequality, and in many cases the Millennium Development Goals' objectives did not materialise. This necessitated a renewed change of focus where the emphasis was on *building capacity* (Chan, 2017: 6, 7). Consequently, primary healthcare was promoted. Through primary healthcare the approach can be to work through existing systems to build capacity (Chan, 2017: 8). The WHO Report on "Primary health care – now more than ever" (2008), followed as a guide to grow primary healthcare (see Chan, 2017: 8). A parallel development was recorded in the report from the Commission on Social Determinants of Health (2008). This report pointed out that factors from the social environment caused ill health. These factors are low income, little and substandard education, limited employment options, high levels of unemployment and poor living and working conditions (Chain, 2017: 8). This brought about new thinking on health: "This was new thinking that viewed health as an outcome of social determinants and not merely the results of biomedical interventions" (Chan, 2017: 8). The advantage of this perspective is verified by a comment from the 2008 WHO Report. In this report it is stated that community participation

contributed to sustained reductions in especially neonatal and maternal deaths (Chan, 2017: 9).

The economic meltdown created new challenges but also contributed towards drafting a third paradigm shift: avoid waste and improve efficiency. The argument is put forward that cost of health should be managed to improve service delivery (Chan, 2017: 9). This has led to the emergence of universal health coverage. Universal health coverage refers to the reorganisation of public health. It is a matter of adopting the right policies to reduce financial risk and to improve on service delivery including prevention (Chan, 2017: 10). The approach is to increase mobility of resources and to remove barriers to access, especially for the poor (Chan, 2017: 10). The appraisal is that global health coverage can mitigate risks in a time of crisis and can foster more cohesive societies and productive economies when it is calm (Chan, 2017: 12).

Although no paradigm shift, there is a growing emphasis on fairness and social justice to address social determinants as a course for unrest and a potential security unrest (Chan, 2017: 10). A major challenge remains *access* to *quality* but *affordable* medicine and health technologies (Chan, 2017: 14, 15). This is dependent on affordable but quality-driven healthcare. A major risk is the falsification of products within the supply chain which is normally of a low standard (Chan, 2017: 16).

These three developments (role of public health to build capacity, social determinants to address ill health and universal health coverage) together with "just medicine" cannot be without a moral basis. Merely observing these shifts (and there may be more) signal that the well-known medical ethics and bioethics protocols may not be sufficient to address the moral basis for a public health ethic. The emerging questions are: What can be regarded as an integrated ethical framework? What are the ethical principles that should be driving these paradigm shifts and the emerging role of just medicine?

In her report, Chan (2017: 92) reflects on major health risks (namely HIV/AIDS, tuberculosis, malaria, viral hepatitis, and tropical diseases) and alerts us to the rise of chronic non-communicable diseases (NCD). She argues that heart disease, cancer, diabetes and chronic respiratory diseases with their four risk factors, tobacco use, the harmful use of alcohol, unhealthy diets and physical inactivity, pose major risks to health. Chan (2017: 108) refers to the World Health Organisation, which has added new dimensions to NCD. These are mental health (depression and dementia), malnutrition (under-nutrition and over-nutrition, the latter characterised by overweight and obesity), ageing, disabilities, interpersonal violence, especially against elderly people, women

and children and road deaths. These dimensions make people extremely vulnerable. In addition, three more threats to health must be added, namely climate change, air pollution and antimicrobial resistance (Chan, 2017: 136). Antimicrobial resistance, especially, is a growing concern as the world is moving towards a post-antibiotic era in which common infections will once again kill thousands of people. The concern is that there are also very few replacement treatments in the pipeline.

These are surely challenges that require the involvement of government and society. In dealing with these diseases, she calls for a change in mind-set towards public health. She comments:

> The traditional approach to health that relies on the biomedical model, focused on the cure of individual diseases, is inadequate. The essential emphasis on prevention requires a greater reliance on the social and life sciences (Chan, 2017: 94).

Although her report does not engage with the state and/or scope of a public health ethic, the importance of ethics cannot be ignored. She argues that access to care and treatment is an ethical imperative (Chan, 2017: 3, 36). The access includes treatment, medicine and care. No person should be denied care, regardless of his or her social and financial status (Chan, 2017: 14, 95).

5.2 Berridge

Berridge's study on public health is delivered from a United Kingdom perspective. She covers topics such as smoking; physical activity; food, diet and health; strategies such as health education; health services such as those for the youth, and cross-cutting issues for example climate change (Berridge, 2016: 12). Human behaviour is seen in environmental, economic and social contexts. In dealing with health challenges, vested interests combined with individual responsibility and personal behavioural change will be important. An appropriate example is obesity, which can be linked to the current food industry (Berridge, 2016: 111).

In unpacking what public health is, she follows very much an historical overview. From her study, three observations can be drawn that will be useful to guide the understanding of public health.

A first observation is socio-economic status. Berridge discusses the historic link between disease and poverty. She refers to Jeremy Benthamine, a philosopher, who promoted the idea of the greatest happiness to the greatest number. She comments:

> The combination of economic and moral determinism has long been a feature of public health – one can trace this combination in public health responses down to the present, where the good health of a population is seen as a component of economic development (Berridge, 2016: 49).

But this has its downside as well. Socio-economic development has sparked new challenges. Four non-communicable diseases are currently growing in low and middle income countries. These four non-communicable diseases are cancer, cardiovascular disease, diabetes and chronic respiratory disorders, and they are related to four behavioural risk factors (diet, physical inactivity, smoking and alcohol). These are the negative consequences of socio-economic development (Berridge, 2016: 106-107).

A second observation is the recognition of the part that social determinants play in people's health. Since the end of World War 2 the concept of "social medicine" has emerged. Social medicine refers to the relationship between medicine and social factors and the integration of prevention and curative approaches (Berridge, 2016: 67). This resulted researchers taking a closer look at diseases, behaviour and lifestyle. A "new" language, that of "lifestyle" (the individual's behaviour and habits), is used. This new approach brought about a new way of practising public health (Berridge, 2016: 71).

> Thus rather than investigating the direct causation of disease through infection or germs, public health personnel began to focus on the role of long-term risk factors which might not cause disease immediately but might eventually bring ill health in the future (Berridge, 2016: 71).

A third observation is the interplay between prevention and treatment. Berridge's historical overview is clear: that there was a shift from the faith in technical solutions, for example, to healthcare systems, to research and evidence, to the development of health promotion or "new public health." The focus extended from the treatment of the disease to service (Berridge, 2016: 96). Consequently, primary healthcare was shaped and social determinants became a focus in public health (Berridge, 2016: 72-98).

It is evident that sustainable development and public health agendas should be coming together. Changes in the natural environment can influence health and its promotion. Consider what negative role carbon emissions, changes in agriculture, the state of ecosystems, availability of food, energy and water, to mention but a few examples, can play in public health (Berridge, 2016: 106).

These observations have led to the summative conclusion that different times call for different actions and therefore a different understanding of public

health. Behaviour at individual and corporate levels cannot be separated (Berridge, 2016:98). This link necessitates capacity building for health. Berridge (2016: 98) comments on this by stating:

> The fundamental conditions and resources for health are peace, shelter, education, income, a stable ecosystem, sustainable resources, social justice and equity. Improvement in health requires a secure foundation in these basic prerequisites.

Today, infectious diseases are no longer the central public issue (Berridge, 2016: 14-16). Public health focuses very much around lifestyle matters for example drinking, smoking, sexual health and obesity. The approach to healthcare is on tactics (vaccination), screening and medication as prevention (Berridge, 2016: 16-17). Health education (for example, food labelling), nudging (tactics which might move individuals towards healthy behaviours) and behavioural economics (financial incentives for a healthier life) are growing in importance (Berridge, 2016: 19). Human behaviour is seen in environmental, economic and social contexts. Vested interests combine with individual responsibility, and personal behavioural change will be important. This relates back to environment – for example, obesity in relation to the food industry (Berridge, 2016: 111).

With regard to ethics in public health, Berridge (2016: 9) raises the question of the "nanny state". The question is whether government should lecture the public about their individual habits. The ethical dilemma grows if the "nanny state" is coupled with Foucault's concept of "bio-politics." Bio-politics refers to the influence the political agenda has on bioethics and how the individual's life can be manipulated through state intervention and steering. This intensifies the fear of society's control over people. In dealing with these concerns, Berridge (2016: 113) promotes the concept of stewardship. She comments that liberal states must be interventionist and not coercive unless there is an extreme threat.

For her, ethics in healthcare should be separated from more general concerns in medicine. The role of ethics in public health programmes is (a) to reduce the risks of ill health that people might impose on others; (b) to create an environment that will sustain good health; (c) to attend to vulnerable groups; (d) to present education/information; (e) to reduce unfair health inequalities; and (f) to promote human rights (Berridge, 2016: 113-114).

5.3 2009 Lancet Health in South Africa

In 2009 the Lancet launched a series on health challenges in South Africa. These challenges included public health challenges and challenges related to policy, social-economic needs, funding and the public health system. Although these challenges have their roots in the pre-1994 political system, they are still eminent in the current public health system and require an innovative way of being addressing (Coovadia *et al*., 2009). In their review of where the country is with these challenges, Mayosi, Lawn, Van Niekerk, Bradshaw, Abdool Karim and Coovadia (2012: 2029-2037) conclude that although important changes have occurred, four major challenges remain. The changes that were implemented revolved around (a) change of leadership; (b) addressing the morbidity profile caused by HIV and tuberculosis, maternal, neonatal and child health, non-communicable diseases, mental health and violence and injury; (c) moving towards a national health insurance system; and (d) focusing on clinical health research. Mayosi *et al.* (2012: 2037) argue that the challenges remain. Here they refer to (a) the impact of social determinants and racial disparities; (b) the integration of health programmes, systems and outreach; (c) the readiness and reliability of information; and (d) the need for innovative inventions.

From these comments is it evident that public health in the South African context has very specific objectives, namely (a) the development of a public health system challenged by equity, quality, access and affordability; (b) the provision of health services that are affordable and part of a global health system; (c) dealing with health challenges such as life expectancy, decreasing maternal and child mortality, HIV and tuberculosis; and (d) improving the effectiveness of the health system.

These objectives capture the objectives of public health, namely improving health challenged by diseases, social determinants and effective implementation of policy.

What is sad, though, is the omission of attention that ethics should receive in meeting these objectives. The ethical challenges portrayed here are much broader than merely managing health challenges – they also call on ethical behaviour in dealing with these objectives. The rightful conclusion is therefore that although the table is proverbially laid for ethics to play a role in dealing with the country's public health issues, it remains a challenge to mainstream ethics in public health and not to deal with it as if it were an add-on.

5.4 Discussion

In paragraph 3.2 the view was formulated that *public health refers to strategies and preventions to promote, secure and sustain quality of health and lifestyle based on a public health value chain*.

The discussion in the preceding paragraphs assists in refining the public health value chain. Here, the sustainability of efforts, funding and affordability (price), economies of scale, emerging technologies, and the vulnerability of groups are important. What should also be emphasised is the focus on cultural and social determinants. Linked to the Millennium Development Goals, affordability (as cost), capacity and education will be important drivers to sustain public health strategies and interventions. Again the role of ethics is promoted as basis for this value chain.

Given the earlier indicators for the public health value chain, namely access to healthcare, a quality habitat, leisure as self-care, effective service delivery and the improvement of health as justice (see paragraph 3.2), this value chain can now be confirmed as having the following indicators:

- Strategies and interventions that will direct the social determinants in such a way that they will leverage healthy living within healthy societies.
- Service delivery through human resource capacity-building, technology application, funding and affordability to secure healthy habitats.
- Education to foster responsible citizenship and participation in developing healthy communities.
- Leadership that will drive the implementation of public health policies and strategies.
- Ethical integration to promote health justice, humanity and to address vulnerability.

As the scope of what public health is, has now been outlined, the role of ethics in public health can be discussed.

6. Ethics in public health

6.1 The role of ethics in public health

In defining the role of ethics in public health, a useful comment is offered by Verbruggen (2013: 160) who refers to ethics as the study of *morals*, with morals being *views* on *good* or *bad*.

The WHO 1988 publication "Future of Public Health" comments on the nature of public health ethics: "Public health ethics may be defined as the principles and values that help guide actions designed to promote health and prevent injury and disease in the population" (World Health Organisation, 1988: 14).

Two observations can be made from this definition: firstly, the attention is primarily on communities and not individuals; and secondly, public health ethics is supplementary to, but different from, bioethics. These observations communicate a unique role for public health ethics namely *population* (groups) rather than the *individual* and *disease prevention* and *health promotion* rather than *cure*. Kass (2001: 1776-1777) captures this observation by commenting that bioethics outlines moral dilemmas for clinical work. Bioethics originates from medical care and human research, and focuses on a different set of concerns that arises in public health ethics. Codes and research ethics normally give more attention to individual autonomy. This is not the focus of public health. Public health departs from a population or community perspective. Evidently not enough attention has been given to articulate a concept of "public health ethics".

> The need for a code of ethics for public health, then, might be viewed as a code to preserve fairly and appropriately the negative rights of citizens to non-interference (Kass, 2001: 1777).

Whilst there are frameworks for clinicians to think through ethical issues in a clinical case, no analogous framework is available for public health practitioners. Kass proposes an *ethical framework* and not a *code* that will address norms and expectations of professional behaviour:

> Rather this is an analytical tool, designed to help public health professionals consider the ethical implications of proposed interventions, policy proposals, research initiatives, and programs (Kass, 2001: 1777).

Although public health is different from global health, global health can assist in scoping the role of ethics in public health. This comment is grounded in the ethical vision of Holtz's (2013:15) campaign for global health. Holtz makes reference to some schools of thought that used to justify global initiatives: humanitarianism, utilitarianism, equity, rights, knowledge and institutions, consensus and advocacy groups.

Three deductions can be made. Firstly, a value chain informs global healthcare. An ethical value chain should be present in public health.

Secondly, there is a meaningful role that institutions and groups can play in the ethics value chain. Thirdly, the reality is that although public health deals primarily with a population and/or group, the role of the individual in the implementation of public health cannot be overlooked.

It is evident that public health ethics and global health ethics cannot be separated. This statement is grounded in Pettus' comments about global health ethics:

> Global health ethics is more than the sum of its individual national parts: its discourse acknowledges and calls out the local deficits of autonomy, beneficence and justice that allow suffering to metastasize on a global scale. The inverse of those deficits is embodied in those collaborative educational and public health responses oriented towards distribute justice conceived as the equitable distribution of pain relief (Pettus, 2012: 29).

The observant reader will immediately sense that the role of the group and that of the individual should be balanced.

Horn and Mwaluko (2014: 100-102) refer to the contest between individual autonomy, rights and interests, and the rights of community or the broader public, that is the common good. Also relevant to this comment is the role of social justice and global justice. The authors outline four approaches that can be useful in capturing the role of ethics in public health:

- *The human rights perspective*: individual versus group rights; dealing with vulnerable people and their right to dignity.
- *The principle-based approach*: the principles of beneficence, non-maleficence, autonomy and justice (known as the Georgetown mantra).
- *The utilitarian approach:* consequences make an action right/wrong. Ethics should be outcome-focused.
- *No harm to others*: the challenge remains regarding whether the individual's behaviour will hurt the group.

Holland (2012: 357) further assists with the understanding of the dilemmas around the group and individual. Holland (2012: 357) comments that the "population" in public health draws attention to inequalities and uneven access to good quality health services which contribute to social injustice (*just* medicine – authors' addition). Programmes can be imposed on individuals but this immediately draws attention to the question of individual rights and community benefits. The problem is even more intense in developing countries: how is an individual's rights protected in a context of limited resources? In addition, is the group's prosperity not more important than the individual's rights – consider lifestyle, eating, drinking and smoking habits?

A number of issues emerge: the welfare of the population as representative of society; the needs of a group (within the population) to promote a healthy lifestyle (e.g. homeless people); intervention to reverse a growing condition such as obesity; the harm to a third party (public smoking) and the balancing act of the state to protect both the individual and the group's rights.

Childress *et al*. (2013: 366) argue that defining the community has ethical challenges too. Take as an example the "numerical public" as the target population. The challenge is to decide whose opinion should be considered. Where there is a "political population", the government drives the public health agenda. The objective is often politically informed. The newly proposed South African health insurance bill is such an example. Regardless of the complexity of defining the "population", the argument of Childress' *et al.* (2013:371) can be supported: that protecting and promoting public health should be balanced by protecting and promoting human rights. But what should take priority are basic values and not ideologies.

Apart from the dilemma between the individual and the group's rights, Horn, Sleem and Ndebele (2014: 81, 86-88) expand on the vulnerability of populations in research ethics in the domain of public health. Typical examples of such vulnerable populations are pregnant women, foetuses, children, mentally or physically handicapped patients, students and captive participants such as prisoners. They refer to the International Organisation of Medical Sciences Guideline 13. According to this guideline refers vulnerability to those who cannot protect their own interests. From a research perspective this creates a problem and calls for protection. The dilemma is that informed consent cannot always waive challenges. The point in contention is the question of how vulnerable groups are involved in research. For example: how can mentally handicapped patients make decisions to participate in a study? Or medically speaking: do they have a health condition for which there is no remedy? To be added to this list are refugees and other special groups, and further challenges such as illiteracy, language barriers and poverty. The latter three examples are well accounted for by Phalime (2014) who highlights challenges associated with a community's developmental issues and their comprehension and experience of their own vulnerability. A fair deduction is that a specific pointer that needs to be captured by a public health ethics framework is vulnerability.

It is obvious that the debate around *individual rights* and *the common good* is inherent to public ethics. This statement can be aligned to Gostin's (2012:374) reflection on the two political sides of "individualism". The "ideological left" favours a set of personal interests such as autonomy, privacy and liberty.

The implication for public health is that individuals would like to do what they want regardless of the affect that their actions may have on the community. The ideological right favours a set of proprietary interests such as the freedom to contract, conduct business, use and develop property and pursue a profession. The implication for public health is that entrepreneurs, for example, want to engage in an enterprise free of regulations, inspections, liability and licences. The crux of the matter is the impact on healthcare provision and that individuals are benefitting more than the group is, or that the benefit to the group is often scaled down.

The value of these perspectives is that although an individual forms part of a community, all public health efforts should bring value and benefit to as many people as possible. Nevertheless, this right cannot be regarded as the only drive for public health: it cannot ignore the needs of a small number of people who are also entitled to support, based on some very specific need. Consider the following example. If it is accepted that there are major health (endemic) disease risks such as HIV/AIDS, tuberculosis, malaria, obesity, etc. that should be prevented and treated, then breast reconstruction, due to mastectomy necessitated by cancer, cannot be ignored even though it is a smaller number of people that will benefit from such an intervention. A similar example is titanium jaw implants used to address deformities resulting from cancer. This is a very expensive technology that cannot be overlooked just because there is only a small number of patients who are in need of such implants. Public health cannot be reduced to a major “for sale” approach. The utilitarian approach, namely that public health must bring benefit only to the majority of people, can never be accepted as the only approach. As a further example, although obesity is a major concern, it does not affect an entire community. A parallel reference can be made to smoking and alcohol abuse. Does this now mean that such cases cannot be priorities for public health ethics? Due to their effect on society, there is general agreement that these issues must be priority areas in public health. The reasoning behind this prioritisation is the critical mass of affected people and the consequences for society. A similar argument, of course, should be presented for cases where the medical condition can influence the psychology of the group (e.g. through low self-esteem and low self-efficacy): this cannot be ignored as part of the promotion of mental health. In these cases “communitarianism” is required, namely the value for the individual freedom and community rights.

The scope of ethics in public health therefore goes beyond the potential conflict between the individual and the group’s interest. A number of supportive observations can be presented. Ten Have *et al.* (2013: 350) outline the ethical challenges well with their reflection on *poverty and insufficient*

care and hence poor health services and resources to care for the poor who are already vulnerable due to their financial circumstances. Although prevention is an important contributor to public health, it cannot be denied that prevention benefits only a small part of a population. This highlights the question as to whether or not the community is well presented in public health ethics.

A major challenge to modern ethical codes is the absence of the community. Rozmaryn (2011: 1398) comments on the Hippocratic Oath that is still considered as "the basic paradigm under which all physicians practice throughout the world." After Pellegrinto (1989) he comments:

> There is in the Hippocratic Oath little explicit reference to the responsibilities of medicine as a corporate entity with responsibility for its members and duties to the general community. The ethic of the profession as a whole is assured by the moral behaviour of its individual members (Rozmaryn, 2011: 1398).

What must be added to this discussion is the Nuffield Council on Bioethics' (2007) emphasis on the role of stewardship – this will allow scope for both the individual and the group.

In defining the role of ethics in public health, Kass (2001) assists in providing a guideline that can be informed by six questions:

a) *What are the public health goals of the proposed programme?* Is the objective reduction of morbidity or mortality? Is the outcome fewer incident cases of HIV and not only a matter that a certain portion of individuals agreed to be tested?

   > The argument put forth here, however, is that public health programs, interventions or studies must be designed with an awareness of the relation between this program and ultimate reduction in morbidity or mortality (Kass, 2001: 1778).

   If a programme's primary objective is to create jobs, then it is a social programme and not a public health programme.

b) *How effective is the programme in achieving its stated goals?* What assumptions do we have that it will be successful and what data is available to support? Results must not be assumed: there should be real evidence.

The question for policy and ethics analysis, then, is what quantity of data is enough to justify a program's implementation? (Kass, 2001: 1778).

Kass argues that if this cannot be proven, then ethically the programme should not be implemented. Good data alone will not justify the programme

either (Kass, 2001: 1778-1779).

a) *What are the known or potential burdens of the programme?* Three categories can be identified:
   - risks to privacy and confidentiality especially in data collection activities;
   - risks to liberty and self-determination especially due to the power to combat disease; and
   - risk to justice if not open to all.

Health education has a very powerful effect on people – it is voluntary and it seeks to empower people to make their own decisions:

From an ethics perspective, education is preferable to other preventive strategies, to the extent that they are equally effective, because it poses few, if any burdens (Kass, 2001: 1779).

The role of research is also crucial. If it is not translated into policy, then the purpose of the research should be questioned (Kass, 2001: 1779).

a) *Can burdens be minimised?* Are there alternative approaches to this challenge? A relevant question is whether it has been ascertained that a mandatory programme will deliver the same participation as a voluntary programme. Whatever the choice – it should have the least moral challenges (Kass, 2001: 1780).

b) *Is the programme implemented fairly*? A leading question will be whether the programme is linked to distributive justice. Clean water cannot be available to one community only, and an HIV screening programme cannot be available only in a poor or a minority community. (It is often not the policy that is the problem but the implementation thereof.) Stereotyping, such as the implication that only certain segments of the population are vulnerable to sexually transmitted diseases, should be avoided at all times (Kass, 2001: 1780-1781).

c) *How can the benefits and burdens of the programme be fairly balanced?* The responsibility remains to promote what is good and to remove the programme from the debate if it lacks evidence, if it will not contribute to health, or if it is unethical. The burdens and benefits of the programme must be balanced (Kass, 2001: 1781).

With this view, Kass (2011: 1781-1782) is in essence pleading for the ethical management of public health programmes. Officials should illustrate integrity too. These observations call on value-driven management in public health. Through this call, other important roles for ethics in public health are also

identified, namely the integrity of public health and the professional behaviour of healthcare practitioners.

This plea becomes even more relevant when the focus on funding and public health is considered. Annemans (2016: 12, 16) comments that money pays for *health* and *life*.

This comment is supported by reference to a tsunami of technology, gene therapy, robotics, stem cell therapy, telemedicine and 3D body printing. Diagnosis determines treatment and the length of stay in hospital. This equals income. Annemans (2016: 63) refers to this as the "illness of hospitals". The challenge with healthcare is that health is a *fundamental right* but it also contributes to the *economy*. This necessitates that money should influence health very positively. For this to happen there are three fundamental requirements: *quality of care*, *solidarity* (the same for all) and *sustainability of treatment* (Annemans, 2016: 145-146). Following from this, he identifies four questions: (a) Will it work? (b) Is it necessary? (c) Is it cost effective? and (d) What does it cost? The cost of healthcare cannot be removed from the patient's responsibility towards his/her own life. For this to take effect, a new lifestyle is required. This can be articulated through a patient charter (Annemans, 2016: 154). The value of Anneman's comments are the deduction of the balance between the market economy, the requirement to provide care and the individual's contribution to his/her own health.

6.2 Discussion

From the semantic claims presented in the aforementioned paragraph, a scope for public health ethics can be defined:

- Public health ethics is different from but aligned with bioethics and global health ethics. Where bioethics focuses on values in clinical interventions, global ethics will concentrate on cross-national healthcare value challenges. Public health ethics will have as scope those values informing the strategies and preventions to promote, secure and sustain quality of health and well-being through habitat provision, education, service delivery, management and relevant policies.
- Although public health focuses on the group and not the individual, it will be the responsibility of a public health ethic to protect the individual's rights and needs without ignoring the principal scope of public health, namely healthy populations. Balancing individual and group rights will be an important focus for public health ethics.

- Since the public health agenda must be implemented and managed, professional ethics can never be removed from the scope of public health ethics. This scope invites not only ethical behaviour towards a community, but also demands professional behaviour from the group towards healthcare practitioners.
- Public health ethics will protect the vulnerable, as group and individual, in identifying, promoting, implementing and managing the public health agenda.
- Public health ethics is an encompassing framework that informs the public health value chain. The scope is therefore on all activities influencing and informing humanity and its health.

Based on this scope, public health ethics can be defined as the values informing the public health value chain to secure quality of health and well-being.

Having considered these observations from literature, five foci can be assigned to public health ethics:

- Public health ethics as applied ethics – public health ethics should identify values to address moral problems related to community health.
- Public health ethics must advocate values that can inform and direct the public health value chain. This should lead to the improvement of community health and social justice.
- Public health ethics should educate skilled workers that will have the knowledge and skill to deal with dilemmas in the public health agenda.
- Public health ethics cannot be removed from professional behaviour – professionals have to act in a virtuous way.
- Public health ethics should promote safety and security, individual interest and responsibility, and economic freedom through integrating ethical values with the public health agenda.

7. What contribution from a Christian informed paradigm towards a public health ethics framework?

At the beginning of this study the question was posed what contribution can a Christian informed paradigm makes towards a public health ethics framework?

The analysis of what public health ethics is, identified four important observations:

Firstly, is public health about the deliberate actions to improve health and well-being. Health and well-being are here understood as a universal human right. At the same time is this right extremely vulnerable due to the influence of limiting or negative social determinants. This vulnerability necessitates an active role for ethics in public health.

Secondly, is public health about an organised activity and programme to secure access to quality (basic) healthcare, improve and protect human dignity and to create a liveable environment.

Thirdly, is public health ethics informed by a utilitarian perspective: it is not about a single person's interest but that of a community.

Fourthly, emphasises public health ethics not only the improvement of health and well-being but especially the behaviour required to make this improvement a reality.

Christian ethics can contribute towards this framework through promoting three important ethical values that can be group under three headings: anthropology, creation and calling:

Anthropology: Human health and well-being cannot be limited to the protection of human life only. Human life is more than its preservation. It is also about living a purposeful life. The balance is therefore found in respecting life but living it respectful too. This calls on a broader understanding of life as only a biological function. The specific contribution a Christian informed paradigm can make is to emphasise that through Christ life is not a biological activity only but also an evidence of love and a symbol of care. It is for this reason that a person can never be reduced to an organ or body part only. Instead, should a person be seen as a unity with a body and a religious heart.

Creation: The development of a liveable environment is not limited to the physical space only, but also about sanitation, recreation, food, security and safety. This is removed from a fragmented view in understanding creation and a person's responsibility towards the creation. The creation is an expression of mankind's stewardship to sustain the environment for future generations based on the belief that the creation shares in the redemption of Christ too.

Calling: Calling is a central part of a Christian lifestyle and should manifest in all walks of life. Calling goes beyond the working relationships and includes the totality of behaviour towards others and the self. This comment drives the views home that one person has responsibility for other people too; a person needs to assist other people to take up and perform their responsibility and to be express service and stewardship through responsibility.

8. Conclusions

This study confirms that the public health agenda is well outlined but that the lack of a supportive integrated ethics framework is a shortcoming. The research question was designed around this observation. Hence the exploratory research question is asked namely "*What is public health ethics?"* The research design is built on a qualitative research approach to describe phenomena and to apply them to practice.

The study explores the concepts of public health and public health ethics. Based on the semantic claims from literature, public health is defined as *strategies and preventions to promote, secure and sustain quality of health and well-being* based on a public health value chain. This value chain has four indicators, namely strategies and interventions; service delivery; education; and ethical integration. Public health ethics is defined as the values informing the public health value chain to secure quality of health and well-being.

The study highlights five specific foci for public health ethics, namely: a) public health ethics should identify values to address community health problems; b) it should advocate the overarching value of community health and social justice; c) there should be skilled workers who have knowledge and skill to deal with dilemmas in public health and to participate in effective healthcare delivery; d) professional behaviour is required since healthcare practitioners have to act in a virtuous way; and e) public health ethics should promote safety and security, individual interest and responsibility, and economic freedom.

The study concludes to indicate what contribution a Christian-informed ethics can make towards a public health ethics framework.

Bibliography

ANNEMANS, L. 2016. *Je geld of je leven in de gesondheidzorg.* Kalmthout: Vanhalewyck.

BERRIDGE, V. 2016. *Public health. A very short introduction.* Oxford: Oxford University Press.

CHAN, M. 2017. *Ten years in public health. 2007-2017*. Geneva: World Health Organisation.

Childress, J.F., Faden, R.R., Gaare, R.D., Gostin, L.O., Kahn, J., Bonnie, R.J., Kass, N.E., MASTROIANNI, A.C., MORENO, J.D. & NIEBURG, P. 2012. Public health ethics: mapping the terrain. In Holland, S. (Editor) *Arguing about bioethics.* London & New York: Routledge. 361 – 373.

COOVADIA, H., JEWKES, R., BARRON, B., SANDERS, D. & MCINTYRE, D. 2009. Health in South Africa 1. The health and health system of South Africa: historical roots of current public health challenges. *The Lancet Series,* 374: 817- 834.

DOUMA, J. 1999. *Grondslagen Christelijke Ethiek.* Kampen: Kok.

GITHEKO, A., MASH, B., DANIELS, K. & MWANGI, T. 2017. African academics set out what Dr Tedros needs in his toolbox to tackle health ills. *The Conversation,* 16 July 2017.

GOSTIN, L.O. 2012. Public health law in the age of terrorism. In Holland, S. (Editor). *Arguing about bioethics*. London & New York: Routledge. 374-385.

HEYNS, J.A. 1986. *Teologiese Etiek. Deel 2/1.* Pretoria: NGKB.

HOLLAND, S. 2012. Is it permissible to impose on individuals for the sake of the public's health? Introduction to part seven. In Holland, S. (Editor) *Arguing about bioethics.* London & New York: Routledge. 357-359.

HOLTZ, C. 2013. Global health: an introduction. In Holtz, C. (Editor). *Global health care: issues and policies.* Second edition. Burlington: Jones & Bartlett Learning. 1-18.

HORN, L. 2013. Promoting responsible research conduct in a developing world academic context. *The South African Journal of Bioethics and Law.* 6(1): 21-24.

HORN, L. 2015. Public health and social justice: forging the links. *SA Journal of Bioethics and Law,* 8(2): 26-29.

HORN, L. & MWALUKO, G. 2014. Public health research (including community cluster randomised trails). In: Kruger, M., Ndebele, P. & Horn, L. (Editors). *Research ethics in Africa.* Stellenbosch: Sun Press. 99-107.

HORN, L., SLEEM, H. & NDEBELE, P. 2014. Research vulnerability. In: Kruger, M., Ndebele, P. & Horn, L. (Editors). *Research ethics in Africa.* Stellenbosch: Sun Press. 81-90.

JANSEN, J. 2008. The research question. In:` Maree, K. (Editor). 2008 (second impression). *First steps in research.* Pretoria: Van Schaik Publishers. 1-13.

JOHNS HOPKINS BLOOMBERG SCHOOL OF PUBLIC HEALTH. 2017. *What is public health?* Retrieved from the Internet on 16 August 2017 http://www.jhsph.edu/about/what-is-public-health/index.html.

LONDON, L. 2015. The right to enjoy the benefits of scientific progress: what does it mean for health research for development? In: Report of the Community of Practice in Public Health: Consultative Workshop. 25 June 2015. Department of Science and Technology and National Research Foundation.

KAHN, A. 2015. Dealing with African epidemics needs more than just a health response. *The Conversation,* 27 July 2015.

KASS, N.E. 2001. An ethics framework for public health. *American Journal of Public Health.* 91(11): 1776-1782.

KOKT, D., LATEGAN, L.O.K. & ORKIN, F.M. 2012. Reflecting on multi-, inter- and trans-disciplinary (MIT) research at the Central University of Technology, Free State (CUT). *Journal for New Generation Sciences,* 10(3): 136-148.

MAREE, K. & VAN DER WESTHUIZEN, C. 2008. Planning a research proposal. In Maree, K. (Editor). 2008 (second impression). *First steps in research.* Pretoria: Van Schaik Publishers. 24-45.

MAYOSI, B.M., LAWN, J.E., VAN NIEKERK, A., BRADSHAW, D., ABDOOL KARIM, S.S. & COOVADIA, H.M. 2012. Health in South Africa: changes and challenges since 2009. *The Lancet,* 380: 2029-2043.

MOUTON, J. 1996. *Understanding social research.* Pretoria: Van Schaik Publishers.

MOUTON, J. 2001. *How to be successful with your Master's and Doctoral studies.* Pretoria: Van Schaik Publishers.

NUFFIELD COUNCIL ON BIOETHICS. *Public health: ethical issues*. London: Nuffield Council on Bioethics.

PETTUS, K.I. 2012. Global health ethics. A response to “total pain”. *San Diego Physician.org,* 27-29.

PHALIME, M. 2014. *Postmortem: The doctor who walked away. A true story*. Cape Town: Tafelberg.

ROZMARYN, L.M. 2011. Decency, honour, integrity and the law. *Journal of Hand Surgery* 36(A): 1397-1402.

SCHOTSMANS, P. 2012. *In goede handen: Geneeskunde en ethiek binne de kerk van vandaag.* Tielt: Lannoo.

SCHROJENSTEIN, H.M.J. 2016. Speaking up about health. In Gaventa, B. & De Jongh, E. *Knowing, being known and the mystery of God. Essays in honour of PH Reinders*: Teacher, Friend, Disciple. Amsterdam: VU University Press. 209-218.

SILVERMAN, D. 2006. *Interpreting qualitative data.* Third edition. London: Sage Publications.

TEN HAVE, H., TER MEULEN, R. & VAN LEEUWEN, E. 2013. *Leerboek medische ethiek* (vierde, herziene druk). Houten: Bohn Stafleu van Loghum.

TILLEY, S.A. 2016. *Doing respectful research: power, privilege and passion.* Nova Scotia: Fernwood Publishing.

TRAFFORD, V. & LESHEM, S. 2012. *Stepping stones to achieving your doctorate.* Berkshire: Open University Press.

VERBRUGGEN, A. 2013. Over de verhouding tussen beroepsethiek, deontologische codes, wetten en een ‘goede’ beroepsuitoefening. In: Van Kerckhove, C., De Kock, C. and Vens, E. (Editors). *Ethiek en zorg in de hulpverlening. Over taboes gesproken.* Gent: Academia Press. 159-176.

World Health Organization (WHO). 1946. *Constitution of the World Health Organization: Principles.* Retrieved from the Internet on 13 July 2017. http:/ www.who.int/about/mission. World Health.

World Health Organization (WHO) 1988. *The future of public health.* Geneva: World Health Organisation.

World Health Organization (WHO) 1998. *Health Promotion Glossary*. Geneva: World Health Organisation.