

## DEALING WITH CHOLERA: EXCLUSIVELY THE DOMAIN OF ENVIRONMENTAL HEALTH PRACTITIONERS?

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### ABSTRACT

*Cholera outbreaks have a profound impact on the health and well-being of communities. Especially young children are vulnerable to the disease and schools report high absenteeism during epidemics. There is both the perception and evidence thereof, that educating communities about cholera (its prevention and treatment) is the responsibility of the Department of Health through its health care workers. In this article it is argued and justified that educators are in a favourable position to support such initiatives. In fact, according to the generic roles of the educator as indicated in the Norms and Standards for Educators, it is the responsibility of educators to actively take part in the development of the communities they serve in fulfilment of their pastoral role as outlined in the Norms and Standards document. Furthermore, provision is made in the Revised National Curriculum Statement for addressing environmental health issues in the Life Orientation learning area. This article further explores current health care initiatives to combat the incidence of cholera and examines the potential role of educators to support such initiatives. Reference is also made to a recent study in northern KwaZulu Natal where a survey of practising educators' level of knowledge regarding cholera was undertaken.*

### OPSOMMING

*Cholera het 'n diepgaande invloed op die gesondheid en algemene welsyn van gemeenskappe. Veral jong kinders is vatbaar vir die siekte, gevolglik rapporteer skole hoë syfers van afwesigheid gedurende epidemies. Daar bestaan die persepsie sowel as die bewyse daarvan dat voorligting van gemeenskappe in verband met cholera (voorkoming sowel as behandeling) die verantwoordelikheid van die Departement van Gesondheid se gesondheidsorgwerkers is. In hierdie artikel word daar aangevoer en gemotiveer dat opvoeders in 'n gunstige posisie verkeer om sulke inisiatiewe te ondersteun. Inderdaad, volgens die generiese rolle van die opvoeders soos uiteengesit in die Norme en Standaarde vir Opvoeders, is dit hulle verantwoordelikheid om aktief deel te neem in die ontwikkeling van die gemeenskappe waarin hulle werk, ter vervulling van hulle pastorale rol soos omskryf in bogenoemde dokument. Daarbenewens, maak die Hersiene Nasionale Kurrikulumverslag voorsiening vir die addressering van omgewingsgesondheidsake in die Lewensoriënterings leerarea. Hierdie artikel verken ook die huidige gesondheidsorginisiatiewe waardeur die trefwydte van cholera teengewerk kan word. Dit ondersoek voorts die potensiele rol van opvoeders om sulke inisiatiewe te ondersteun. Verwysing word ook gemaak na 'n onlangse studie in noordelike KwaZulu Natal waar 'n opname van die praktiserende opvoeders se vlak van kennis in verband met cholera onderneem is.*

## INTRODUCTION

Outbreaks of cholera in South Africa since the 1980s serve as a reminder of key challenges faced by the environmental health sector. The extent and ferocity of the outbreaks underline how severe the backlogs in the provision of basic services (potable water and sanitation) really are and indicate that there has possibly been a greater focus by the Department of Health on curative care as opposed to prevention and control. In addition, the outbreaks exposed that environmental health is one of the most neglected spheres of health management in South Africa which is exacerbated by an acute shortage of environmental health practitioners in rural areas (South African Health Review, 2002:102, 109, 113).

Good health is not only a resource for social, economic and personal development, but also the basis for living a quality life (De Wet, Mathee & Barnes, 2001:77). Apart from the fact that cholera can cost governments billions of rands to eradicate, the impact on the socio-economic domain is also significant. Absenteeism by the workforce caused by cholera adversely affects industrial output and may lead to loss of trade (Nevondo & Cloete, 2001). Cholera also impairs the quality of life of those who survive. It retards the progress of education since it causes high levels of learner absenteeism often accompanied by compromised health status. Children's progress in education, reaching their full potential and contributing fully towards the development of their countries (WHO, 2002b), it could be argued, is primary in the pursuit of the achievement of sustainable development, an uncontested goal to ensure human well-being and survival.

In a government statement released in July 2002, it was stated that more intensive and integrated work needs to be done to ensure that cholera outbreaks are eliminated (Government Communications, 2002). Looking at the strategies employed, it would seem that "intensive and integrated work" is the target of government departments such as Water Affairs and Forestry, Environmental Affairs and Tourism and Health with none of this "work" being channelled to the Department of Education (DoE) explicitly. It is because of this "oversight" that it was decided to reflect in this study on the fact that educators are seemingly omitted from the list of those who could make a contribution towards

preventing and controlling the incidence of cholera. This study explores why and how educators could — and should — be part of the team working towards addressing the cholera concern.

## BACKGROUND

Cholera pandemics became a global concern during the 19<sup>th</sup> century. It is believed that the first pandemics were to have been started in the Lower Bengal region of India. These pandemics spread over many countries and major outbreaks were recorded in 1837, 1840 and 1846-1863 (University of California, 2001a).

Robert Koch (1843-1910), the well-known German physician and founder of the science of bacteriology, is credited with the discovery of the cholera bacillus, *Vibrio cholerae* in 1884. He was unaware of the work by Filippo Pacini (1812-1863), an Italian scientist, who had actually identified the organism and its relation to the disease 30 years previously, in 1854. Pacini insisted that cholera was contagious but his ideas were contradicted by influential Italian physicians of the time who held steadfastly to the miasma theory (a noxious atmosphere arising from putrid matter causing disease [Reader's Digest Universal Dictionary, 1988:974]). Similarly, the English physician, John Snow (1813-1858), whose experiments in London showed that contaminated water was an important factor in the spread of cholera was opposed by the prevailing dogma of the miasma theory. However, in 1846, the British Parliament passed the *Nuisances Removal and Diseases Prevention Act*, that was commonly known as the Cholera Bill to encourage property owners to clean their dwellings and connect their toilets to sewers (University of California, 2001b). In Snow's testimony to the legislator in 1855 when he was asked to state his opinion on the mode of propagation of cholera, he stated, "I have satisfied myself completely, that the chief mode of propagation of cholera in the South district of London, throughout the late outbreak, was by the water of the Southwark and Vauxhall Water Company containing the sewage of London; and containing consequently whatever might come from the cholera patients in the crowded habitations of the poor; and I am satisfied that it spread directly from individual to individual, sometimes in the same family by similar means; that is, by their swallowing accidentally what came from a previous sick patient" (University of California, 2001c).

Even as early as 1855, it was realised that there was a connection between water and the incidence of cholera.

## **CHOLERA IN AFRICA**

### **Outbreaks**

Since the early 1970s, cholera has been endemic in the African region and the threat of cholera is ever-present especially during the rainy summer season. Recent media reports draw attention to this fact. Towards the close of 2003, it was estimated that half a million people were at risk as cholera had broken out in southern Mali. Already over 700 people had contracted the disease of whom 55 had died (Afrol News, 2004a). A similar situation prevailed in Benin where a continuous cholera outbreak of eleven months had claimed lives and affected whole communities (Afrol News, 2004b). In March 2004, Togo reported more than 650 cases (Afrol News, 2004e); while by 18 August 2004, over 400 Guineans had been infected in the recent outbreak (Afrol News, 2004f). The same source points out that cholera outbreaks are currently (August 2004) registered in Cameroon, Guinea, Liberia, Tanzania and Uganda.

Similar circumstances are found in the southern African region. During January 2004, the WHO reported that the cholera outbreak in Mozambique and Zambia had registered a total of 5 500 confirmed cases (Afrol News, 2004d). By March 2004, a total of 12 970 cases of cholera had been reported in Mozambique since December 2003 (SABC News, 2004).

In South Africa, cholera outbreaks in the early 1980s were used as training grounds for the South African Health system to respond to the outbreak by employing various mechanisms at various levels of care. The experiences learnt in the 1980s provided a wealth of knowledge which culminated in the compilation in 1998 of guidelines for the control of cholera outbreaks not only in South Africa, but in other developing countries throughout the world (National Department of Health, 2001).

### **Cholera statistics in South Africa**

Statistics revealing reported cases of cholera since the

1980s are available from the National Department of Health (2000). The numbers are reflected in Table 1.

The 2000s did not augur well for many people in rural areas and informal settlements in South Africa. Between late 2000 and mid 2001, the most serious cholera epidemic yet experienced in South Africa claimed several lives and affected a total of 106 389 people. KwaZulu Natal (KZN), Limpopo Province, Mpumalanga and Gauteng were the four most seriously affected regions with KZN reporting the majority of cases (99%) and the highest number of fatalities (96%). Statistics released by the National Department of Health indicate the numbers involved in the four epidemics since August 2000. The statistics are reflected in Table 2.

The statistics for 2004 (until 29/06/2004) reveal that since January 2004, 2778 cases were recorded in South Africa. In the Eastern Cape, 738 cases were reported, in Mpumalanga there were 1773 cases and North West recorded 260 (National Department of Health, 2004b).

### **Measures to prevent and treat cholera**

A growing number of diseases affecting children are linked to unhealthy and unsafe environments (WHO, 2002a:20). One of the most effective ways of improving the health of people is to improve the quality of their housing and living environment. The World Health Organisation (WHO) adopts a broad definition of healthy housing that goes beyond the mere physical structure and includes the provision of basic environmental health services as well as aspects associated with the broader living environment. Amongst the fundamental elements of healthy housing are included water supply, sanitation, solid waste removal, wastewater disposal, and food safety (WHO, 2002a).

### **Contraction**

Most at risk of contracting cholera are those with poor or no sanitation services where faecal contamination of water resources is a risk. Human faecal matter is a highly toxic substance containing a wide range of disease causing pathogens. It is essential that faeces be removed from the living environment as quickly and effectively as possible (De Wet *et al.* 2001:91). Communities with no sanitation services are forced into

**Table 1: Cholera statistics between 1980 and 2000**

Year	Top three provinces affected	Total number of cases
1980	Mpumalanga, Limpopo, Gauteng	1 418
1981	Mpumalanga, Limpopo, KwaZulu Natal	5 536
1982	KwaZulu Natal, Limpopo, Mpumalanga	13 900
1983	KwaZulu Natal, Mpumalanga, Gauteng	6 879
1984	KwaZulu Natal, Gauteng, Eastern Cape	1 685
1985	KwaZulu Natal	701
1986-1990	KwaZulu Natal, Gauteng, Western Cape	337
1991-1995	KwaZulu Natal, Mpumalanga, Gauteng	119
1996-2000	KwaZulu Natal, Mpumalanga, North West	70
Total		30 645

Source: National Department of Health (2000) <http://doh.gov.za/facts/stats-notes/2000/stat14-00.html>

**Table 2: Cholera epidemic statistics between 2000 and 2004**

Epidemic	Number of cases	Number of deaths	Case fatality rate
15/08/2000 - 31/07/2001	106 389	229	0.22%
01/08/2001 - 31/12/2002	18 224	122	0.67%
01/01/2003 - 31/12/2003	3 901	45	1.15%
01/01/2004 - 29/06/2004	2 778	35	1.26%

Source: National Department of Health (2004a) <http://doh.gov.za/issues/cholera/updates04/0629.html>

bush toileting — often along the banks of rivers. These communities generally rely on these same rivers for their drinking, cooking and washing water, and so the cholera bacterium spreads. Following a slightly different route, both bucket and bush toilet systems may lead to soil contamination thereby feeding into the surface and ground water systems and so polluting water sources. Solid waste (that includes faecal waste) disposal problems also increase the risk of insects, like flies, transmitting the disease.

A further concern is the storage and handling of water

for drinking, domestic and personal hygiene purposes. Frequently contamination occurs while safe water is being carried home or where the water is stored in the home itself and in such cases, the improvement of water quality alone would have little effect. According to Nevondo and Cloete (2001), domestic activities related to the storage and use of water may have an important bearing on faecal-oral disease transmission.

One may focus so intently on the provision of potable water to cholera stricken areas that another transmission route may be overlooked, namely transmission

through contact with people affected by the disease. For example in the Uthukela district of KZN, water quality sampling at the peak of the cholera outbreak between December 2001 and February 2002 showed that drinking water was not the primary source of cholera infection. There cholera spread primarily through physical contact with infected people, which underlined the importance of hygiene education as the first priority rather than water tankers and rapid toilet building (South African Health Review, 2002:115)

## Health education

Improved hygiene and health knowledge are important elements of health improvement initiatives (De Wet *et al.* 2001:90). It needs to be borne in mind that the mere material improvement of water supplies and sanitation would doubtless prove to be less effective than if people were advised by means of health education of the sources of their disease problem and how to avoid them. Primary health care education is a vital component in prevention of cholera (Nevondo & Cloete, 2001).

Unfortunately, cholera persists despite national and international organisations' efforts to constrain the disease. Strategies employed in several African countries, indicate that control measures and health care education are the responsibilities of the ministries of health (Afrol News, 2004b; Afrol News, 2004f), international health organisations such as the World Health Organisation and the Red Cross (Afrol News, 2004e, Afrol News, 2004f) and volunteers recruited by ministries of health or international health organisations who visit households in affected regions with information and education on prevention and management of the disease (Afrol News, 2004e). It needs to be noted that in Togo, public institutions, such as schools were recently enlisted to conduct a mass awareness campaign to control the spread of the epidemic (Afrol News, 2004e).

During the 2000/2001 cholera outbreak in South Africa, the provincial health department planned to expand its health promotion and education programme by training health workers in rural communities, using local community bodies, churches and the media to intensify the coverage of its cholera prevention and treatment drive (SAPA, 2001c). Omitted from this list of possible vehicles for transmitting the message, are educators who are in daily contact with large numbers of children

from communities where cholera is experienced. Similarly, reported in the *South African Health Review* (2002:111), according to the lessons learnt from the Mvula Trust's rural sanitation projects, it was decided that health and hygiene awareness resource kits should be developed for environmental health practitioners and anyone else involved in sanitation and hygiene promotion — including village hygiene and sanitation promoters, community health workers, clinic personnel and development practitioners.

Put simply, for cholera to be successfully controlled, water sources have to be made safe, proper sanitation and waste management must be practised and basic hygiene education must be provided and practises applied.

## National efforts to address cholera

Environmental health practitioners have a pivotal role to play in ensuring that health problems are understood in their broader social, economic and environmental contexts. The target ratio of environmental health care workers for South Africa is 1:15 000 (the World Health Organisation recommends a ratio of 1:10 000). There remains an acute absolute shortfall of personnel to undertake the work required. While roughly 50% of the population lives in rural areas, an estimated 75% of the environmental health care practitioners work in urban areas. Such personnel shortages mean that most health care practitioners are fighting fires and simply do not have the time or resources to undertake anything more than reactive health inspections and monitoring (South African Health Review, 2002:105-106, 114).

Many health practitioners acknowledge the contribution community based structures can play, but liaison and communication networks need to be strengthened (South African Health Review, 2002:114). Proactive community-level hygiene education and awareness campaigns, coupled with timely water quality monitoring, can limit outbreaks of diarrhoeal and other diseases including cholera. In this regard it has been suggested that environmental health practitioners should be funded overtime so that they can engage with communities after hours and over weekends when people are home from school and work (South African Health Review, 2002:107).

Furthermore, according to the *South African Health Review* (2002:107) report, comparatively few health practitioners have the kind of facilitation skills needed to engage people in discussion of the causes of local environmental health problems and what steps they can take to remedy them. The current curriculum for health care workers provides limited training in practical application and considerable more weighting needs to be given to facilitation skills. Moreover, for health practitioners to move beyond a law enforcement role, they need to know how to challenge bad practices constructively and motivate the perpetrators to improve their practices.

### **Primary Health Care Package for South Africa — a set of norms and standards**

According to the Norms and Standards document, diarrhoeal disease control is an essential daily element of clinic services as well as an element in outbreak prevention and control. All staff are trained in the management of diarrhoeal disease and have continuing education every six months or when there are reports of cholera outbreaks in neighbouring countries or regions. Clinic staff have knowledge of the clinical symptoms of cholera and are able to manage cases of diarrhoea and dehydration, either at clinic level or by referring severe cases to hospital (Primary Health Care Package, s.a).

### **The National Health Bill and Environmental Health**

It is envisaged that the National Health Bill will devolve responsibility for most environmental health services to metro and district municipalities (South African Health Review, 2002:102). It is anticipated that the Bill will define Municipal Health Services as taking responsibility for environmental health functions that include:

- monitoring water quality and availability, protection of water sources, water sampling and testing, and implementing health, hygiene awareness and education campaigns
- waste and sanitation management
- communicable and environmental-related disease control and monitoring (South African Health Review, 2002:103-104).

### **Selected examples of regional efforts to address cholera**

#### **KwaZulu Natal**

Apart from the Department of Health's efforts to provide curative and preventative care to cholera infected communities, the KZN Sanitation Task Group (SANTAG) which is made up of representatives of separate agencies with a common commitment to improving sanitation in KwaZulu Natal was established. Together these agencies are responsible for the implementation of the *National Sanitation Policy* in the province. Various means are used to do this, such as meetings, newsletters and publications like booklets and posters. In response to the outbreak of cholera that began in August 2000, SANTAG produced a number of publications aimed at educating people about the spread of the disease and how to prevent it. These posters and publications included material that was used in communities by trained community health workers and covered topics such as sanitation improvement, prevention of cholera, the symptoms of cholera and other related topics. For schools, a *Health Promoting School* poster was developed in collaboration with the KZN Department of Health (but not in conjunction with the Department of Education) as well as a poster, *Teaching Health and Hygiene in the Classroom* for educators and learners. This poster was published in EnviroTeach. It is probably a reasonable deduction to make that not all schools — and especially schools in deep rural areas affected by cholera outbreaks — have access to this publication and consequently the message is lost to those most in need of it.

However, it remains the conviction of SANTAG that although the disease appears to be in check, the education campaign needs to be maintained so that it does not reappear (SANTAG, 2003).

#### **Mpumalanga**

In response to the outbreak of cholera in Mpumalanga in May 2003 (Mpumalanga Department of Health, 2003), it was reported that extensive health education within communities was ongoing and that pamphlets and posters and the community radio were used to inform communities about the contraction and treatment of cholera. Health messages on how to render water safe and on personal and environmental health issues were communicated. The Department of Water Affairs and Forestry provided safe water in affected areas, and information boards were placed at sources of unsafe water.

The challenges experienced in managing the threat of epidemics in the province included the:

- restructuring of the health department
- allocation of other tasks to the Communicable Disease Control Coordinators
- lack of dedicated transport to Communicable Disease Control Coordinators
- poor infrastructure
- untrained information managers
- poor commitment at national level towards the implementation of Integrated Disease Surveillance and Response which is the only solution or early warning system to detect epidemic potential infectious diseases as soon as they occur
- slow rolling out of water and sanitation provision (Mpumalanga Department of Health, 2003).

### **Eastern Cape**

In January 2003 it was reported by SAPA that two Eastern Cape rivers were contaminated by cholera. This was reportedly the first time in the history of the region that cholera had struck the area. Within ten days eight lives had been lost and by the 23 February 14 people had died and over 1 000 had been hospitalised. The Department of Health's response was to step up its awareness campaign by public broadcaster and community radio stations that would promote the prevention of cholera by practising good hygiene (SAPA, 2003a; SAPA, 2003b).

## **ROLE OF EDUCATORS IN PROVIDING EDUCATION ABOUT CHOLERA**

It is crucial in the context of reconstruction and development and social and education reform to engage educators in the broad considerations of education both in and beyond the classroom (Asmal, 2001).

### **Educator roles**

With the gazetting of the *Norms and Standards for Educators* in 2000, a generic picture of an educator and the required competencies that describe the knowledge, skills, attitudes and values considered the hallmark of a competent and professional educator were outlined. Included in these generic roles are the following:

- learning mediator
- designer of learning programmes and materials
- leader, administrator and manager
- scholar, researcher and lifelong learner
- assessor
- community, citizenship and pastoral role
- context/phase/subject/learning area specialist.

It goes without saying that within the context of the Constitution, the Reconstruction and Development programme and education policy as embedded in an outcomes-based approach to education and Curriculum 2005, education needs to be responsive to national priorities and concerns as well as to the needs of individual communities. The generic educator roles speak to the broad goals of education. Teachers who have a strong civic purpose understand their position, not only in the schools where they teach, but also in the community they serve. Ultimately, this civic purpose is what gives life to the generic role defined as the community, citizenship and pastoral role.

### **Revised National Curriculum Statement**

Also inherent to these educator roles is the need to be responsive to curriculum principles and frameworks. Within the Life Orientation (LO) learning area, it is stated in the *Revised National Curriculum Statement* (2003) that the purpose of the learning area is *inter alia* to enable learners to make informed, morally responsible and accountable decisions about personal, community and environmental health (Revised National Curriculum Statement, 2003). This purpose is also enunciated in the first of the five learning outcomes for the learning area. For the different grades, specific issues related to environmental health concerns are stated as evidence of meaningful learning. Those outcomes (stated as assessment standards) that could be linked to environmental health issues such as cholera are mentioned below.

Grade 1	Explain steps to ensure personal hygiene and links these steps to environmental health.
Grade 2	Describe sources of clean and unclean water and simple water purification methods.
Grade 3	No specific environmental health re-

	lated outcome that can be linked to cholera.
Grade 4	Explores and reports links between a healthy environment and personal health.
Grade 5	Explores and reports on ways to protect the quality of food and water in various contexts. Recognises the symptoms and causes of locally occurring diseases and discusses prevention strategies.
Grade 6	Participates in a problem solving activity to address an environmental health issue to formulate environmentally sound choices and/or actions.
Grade 7	Evaluates actions to address an environmental health problem.
Grade 8	Plans an action in which laws and/or policies for protecting environmental health are applied to address an environmental health issue. Critically analyses the causes of common diseases in relation to socio-economic and environmental factors.
Grade 9	Develops and implements an environmental health programme.

The assumptions with regard to the above educator roles and learning area outcomes, with the associated assessment standards, include that

- educators can play a significant role in educating learners about the dangers of cholera, basic hygiene practices and other matters related to environmental health issues
- educators engage learners in recognising and addressing local environmental health issues
- as respected persons in communities, educators are able to, within the communities they serve, contribute to the sensitisation and awareness-raising of cholera and associated environmental health issues
- as mediators of learning, educators should be able to translate scientific knowledge into simple language that can be understood by learners and unsophisticated communities.

It is thus argued that in fulfilment of their task as educators, teachers are in an ideal position to contribute meaningfully towards cholera prevention and treatment.

## **A survey of educators' knowledge of cholera**

In a recent study by Mhlongo (2003), a Department of Health questionnaire used in cholera infected communities that aims to determine existing knowledge of cholera, was administered to a group of 54 rural educators in northern KZN. The questions dealt with issues relating to cholera and personal hygiene. Some of the questions inquired into the living conditions of the participants since it was believed that responses would give insight into the participants' ability to afford adequate food and water, education, health care and proper housing and to be able to relate to these circumstances. The study had as its purpose to establish if educators in rural areas could serve as reliable sources of information about cholera for their learners and their communities. One assumes that if educators are well-informed about cholera, they could teach learners effectively about the dangers of cholera and about its management once somebody is infected. It is assumed that this information would then be conveyed to the households within the community (Mhlongo, 2003:6-7).

It was found that educators were generally deficient in their understanding of cholera, its prevention and treatment. In relation to their own living conditions and possible identification with cholera outbreaks in the region, the following information was provided:

- Regarding the sources of drinking water, 50% of the participants relied on the river for their drinking water, 30% depended on boreholes; and 20% had tap water (Mhlongo, 2003:42).
- Types of toilet facilities were also probed. Some 83% had pit systems, 2% had no toilet system (Mhlongo, 2003:45) and it is presumed that the remaining 15% had access to flush systems.

In relation to the control and treatment of cholera, the survey presented the following data:

- With regard to dealing with soiled clothing (soiled by cholera patients), only 55% of the participants' answers indicated that they were aware that they had to protect their hands from possible contamination before touching the soiled clothes. Some 25% were concerned with killing the cholera bacteria in the water that was being used to wash the clothes. The rest of the participants either misunderstood the



question (language barrier) or did not respond to the question (Mhlongo, 2003:47).

- Knowledge about dehydration symptoms and making a rehydration solution was equally inadequate. Only 25% could identify one of the symptoms of dehydration with the remainder having no knowledge of such symptoms. Some 55% were able to explain how to make a rehydration solution while the rest of the participants knew that the patient should be given liquid of some kind (Mhlongo, 2003:51).

The results of this survey are particularly worrying given that the survey was conducted with educators who live in cholera stricken areas. If educators have misconceptions about cholera, it could be conjectured that community members are also uninformed about the symptoms, prevention and treatment of cholera. It would seem that the virtuous attempts of the Department of Health to educate these communities about cholera have been less than successful. Possibly this is also the case elsewhere.

These survey results point to the fact that educators need to be helped to understand the nature, control and management of infected patients and pass on accurate information to learners and members of their communities (Mhlongo, 2003:4-5). This would then become not only the task of environmental health practitioners, but also the task of institutions who are responsible for pre-service and in-service training of educators.

## **THE WAY FORWARD: CONCLUSIONS AND RECOMMENDATIONS**

Since the early 1990s, conferences and meetings on health promotion and supportive environments have emphasised a settings approach, encouraging action for the environment and health in places where people live and work. A particular advantage of a settings approach is that it facilitates integrated, intersectoral action (Mathee, Von Schirnding & Pick, 2002:7). At a meeting on *Supportive Environments for Health* held in Kenya in 1993, schools were identified as one of three priority settings for action as embodied in the Nairobi Statement on Supportive Environments for Health (WHO/UNEP, 1993). It is recognised that schools provide a centre for organising and providing

environmental and health care, for the education of children in healthy living, for community action and in addition, have a major role to play in facilitating the socio-economic and human resource development of societies.

The Department of Health initiatives have provided for educating communities through their own structures without engaging the efforts of professional educators in this drive. This is despite the fact that it has been acknowledged that the majority of health care personnel tasked with educative responsibilities lack the necessary facilitation skills that are crucial for effective learning. The literature shows that there are serious personnel shortages in health care and while an attempt is made to support the efforts of the health care practitioners by including community based structures in educative programmes, no mention is made of including schools with their professional educators who are specifically skilled in the mediation and facilitation of learning. Surely facilitation and mediation of learning are generic roles performed by professional educators and the role that educators could play in the prevention and amelioration of cholera and its consequences becomes prominent.

In this article it has also been argued that the generic roles of educators as stipulated in the *Norms and Standards for Educators* document require that educators' influence extend beyond that of the classroom and that they develop and exude a civic responsibility that would tie in with the citizenship and community development roles as specified. Furthermore, in carrying out their duty as designers of learning programmes and mediators of learning in accordance with the framework of the *Revised National Curriculum Statements* educators in the Life Orientation (LO) learning area are required to address environmental health issues as part of the curriculum. Schools are thus in the unique position to contribute to improving the physical environment not only of the school, but also that of the community and promoting education around environmental health. The learning area statements of LO provide for school curricula to be responsive to the needs of the community and, within the flexibility offered by OBE, it should be possible to develop teaching and learning opportunities for environmental health issues. Within the classroom context, educators are known to have a special relationship with their learners and act as role

models for them. They are in a position to model and monitor attitudes and skills — also those that support methods of curbing the transmission of transmittable diseases such as cholera.

Cholera outbreaks emphasise that without hygiene education the vision of improving the quality of life, especially in rural areas, will be compromised (SAPA, 2001b). Such education programmes should be about highlighting and raising community awareness for the need for safe water, adequate sanitation and practising hygiene as critical factors in stopping the spread of waterborne diseases (SAPA, 2001a). One of the widespread constraints in the outcomes-based education system followed in South Africa, is the notable lack of good teaching and learning support materials to strengthen the transmission of knowledge and skills. Educators bemoan the lack of material from which to draw on for preparing and delivering meaningful learning opportunities. The Department of Health could make a substantial and effective contribution in this regard. By including educators in their awareness-raising campaigns and by providing educators with appropriate literature and visual material for their own and for classroom use, the efforts of the Health Department in reaching communities with accurate and relevant information could be intensely magnified. Educators can play a significant role in transmitting knowledge about cholera and its prevention and amelioration, and it is strongly advocated that the Department of Health reconsider its programme and include educators as one of their foremost vehicles to ensure that accurate information regarding the prevention of cholera and its treatment is relayed to learners who are able, in turn, to carry the information to their households and into their communities.

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