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Cholera Discourse Among the Asante of Ghana since the Colonial Period: Continuities and Discontinuities in Ayigya Zongo

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Abstract

Cholera is a highly infectious disease with the ability to cause death within hours; an outbreak of epidemic forms of cholera is widely treated as a public health emergency. Ghana is considered a cholera hotspot because the major risk factor of cholera, poor sanitation, is ever-present in most parts of the country. Data were gathered in 2021 from the archives, oral interviews, and literary sources to explore how cholera was understood and treated in the Asante Region of Ghana, with a primary focus on Ayigya Zongo in the city of Kumase. Findings revealed that most interviewees were aware of what cholera is and to a large extent the means of prevention, but socio-economic conditions may force a neglect of facts. Proper sanitation, drinking safe water, and eating clean and healthy foods are among the basic means of preventing the disease, and may also prevent other sanitary-related diseases including other diarrhoeal diseases and typhoid fever. A success story in Ayigya Zongo could have further implication for West-Africa, Ghana and Asante in particular.

Key Words: cholera, cholera hotspot, sanitation, public health

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Cholera is an "acute diarrhoeal infection" caused by the ingestion of food or water that has been contaminated with the bacterium Vibrio cholerae (World Health Organization (WHO, 2021). It is highly infectious, and the emergence of epidemic forms have been treated as public health emergencies (Lee, 2001). Cholera endemic countries are those without sustainable access to improved sanitation facilities (WHO, 2021) and a majority are in Sub-Saharan Africa (Ali et al. 2015). About 1.4 billion persons are at risk of contracting cholera in endemic countries and about 3 million to 5 million persons get infected, with deaths ranging from 100,000 to 120,000 per year globally (UNICEF, 2013). More recently, WHO (2021) estimated that there are 1.3 million to 4 million cases of cholera and 21,000 to 143,000 deaths worldwide. Affected nations suffer harsh economic impacts (Lee, 2021). Thus, the European Union banned fresh imports from Kenya, Uganda, Tanzania, and Mozambique following the cholera outbreak in East Africa in 1997-98. Guinea refused to acknowledge suspected cases of cholera during a 1970 outbreak and withdrew from membership when the WHO announced it (Echenberg, 2011). Although WHO (2018) reported that the number of cholera cases globally decreased by 60% in 2017, Gonzalez et al. (2020) have warned that the menace of pandemics continues even today (COVID-19), and that the world should be on the alert. WHO (2021) reported that cholera, the "seventh pandemic" in particular, which commenced in 1961 in Asia (Indonesia) reached Africa by 1971. Echenberg (2011) maintains that at that time pandemic experts did not foresee Africa accounting for most of the global burden or that a disease of Asian origin would become an "African disease."

Forty to eighty million people across Africa are estimated to live in cholera hotspots (Global Taskforce on Cholera Control [GTFCC], 2017), including approximately eight million in Ghana (Tutu et al., 2019). The risk of cholera outbreaks is amplified in the face of poverty, war, or natural disasters, which may compel people to live in crowded conditions without adequate sanitation (Jahan, 2016). Irregular supplies of safe drinking water as well as improper sanitary practices in urban communities in Ghana put people at risk of contracting cholera (Osei and Duker, 2008). Mireku-Gyimah et al. (2018) indicate that persons with compromised immune systems and malnourished children are at greater risk of death after contracting cholera, but the disease is fatal even for healthy young adults in comparison with other

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diarrhoeal diseases. During the 2014 cholera outbreak in Ghana, infected individuals aged 20-49 accounted for 70% of the total cases.

The literature on cholera outbreaks in Ghana has focused on the Greater Accra Region or on coastal regions where cholera cases are usually predominant and most works deal with the epidemiological or scientific aspects of the disease, relegating policy aspects to the background. Several works have focused on the seventh cholera pandemic (1961 to present) but little consideration has been given to the colonial period and how that has shaped present actions in Asante. This study traces the efforts of the colonial administration and local actions to prevent sanitary-related diseases. We find continuity with current local initiatives and communal interventions by city and municipal officials in the prevention of cholera, in Asante and Ayigya Zongo in particular. The study explains the relationship between cholera prevention and the prevention of other diseases and identifies challenges in cholera control and the way forward through global institutionalised policies and the lens of applied history.

Method of Study

Our study used a qualitative approach to gather data, present findings, and construct its analysis. Both primary and secondary sources were used. Primary sources included archival information and oral interviews. Archival data from the colonial period were analysed to identify the policies and means used by the colonial administration that may have quelled potential cholera outbreaks and that may have ramifications for the postcolonial period and the current fight against cholera. Oral interviews were conducted to compensate for lack of records on cholera for Ayigya Zongo. Respondents were sub-divided into three key categories: residents of Ayigya Zongo (twenty individuals) who gave first-hand information on cholera in Ayigya Zongo; officials from Oforikrom Municipal Health Directorate, the Oforikrom Municipal Assembly, and the Kumase Metropolitan Assembly (KMA) who were interviewed for their expert knowledge on policies and how they have been operationalised; and health workers from the Bomso clinic and the Kwame Nkrumah University of Science and Technology (KNUST) hospital that are closer to Ayigya Zongo who provided information on how cholera and other sanitary-related diseases could be prevented. Respondents gave consent for the interviews to be conducted based on an

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introductory letter from the Department of History and Political Studies at KNUST. The interviewees did not find the interview problematic and did not think that it would have any adverse impact on any individual. Information was thematically pieced together to form a synthesis that satisfied the objects of the research. The discussion that follows is examined under two broad sections - cholera in Asante during the colonial era and cholera in contemporary times, with reflections on contemporary efforts in Ayigya Zongo, a suburb of Kumase, which is the capital of the Asante region of Ghana.

Cholera in Asante

Poor sanitation is the primary factor that triggers cholera outbreaks, though the first cholera epidemic in the world, recorded in 1817 in Jessore India, came about as a result of contaminated rice (GTFCC, 2017; Osei and Duker, 2008). The first case of cholera in Ghana was recorded on 1st September 1970 when a Togolese national from Guinea collapsed at the Kotoka International Airport and was later found to have cholera (Osei and Duker 2008). Cholera may have existed in an earlier period but owing to inadequate means of surveillance and detection was not recorded officially in what we now refer to as Ghana. The sixth cholera pandemic (1899-1923) coincided with the colonisation of the Gold Coast (1874-1957) (Berry, 1995) but did not generate a recorded case of cholera. Still, the European presence and broader human interactions brought diseases like influenza, yellow fever, and the bubonic plague, and necessitated the first formal interventions in public health (Patterson, 1983; Adu-Gyamfi & Donkoh, 2013).

Some of the settlements within the Gold Coast were known for their filthy conditions (Adu-Gyamfi et al. 2013). Some had pools of water that attracted swarms of insects and emitted foul odours and garbage was dumped indiscriminately. The lack of adequate latrines also meant that human excreta was a major sight (Adu-Gyamfi et al., 2013). Such conditions contributed to the spread of diseases including malaria, worm infestation, yellow fever, sleeping sickness, yaws, and possibly cholera (Twumasi 1975), which might have been mislabelled among the diarrhoeal diseases. Recent studies (WHO 2023) have shown that there are three clinical types of diarrhoea - acute watery diarrhoea, which includes cholera; acute bloody diarrhoea also referred to as dysentery; and persistent diarrhoea. To prevent environment-

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related diseases, the colonial administration adopted certain public health measures including "health education, immunisation, and provision of health facilities, screening tests, and provision of incinerators" (Adu-Gyamfi et al., 2017). These measures ultimately led to the establishment of hospitals and Public Health Boards (PHBs) including the Kumase Public Health Board (KPHB).

Public Health Laws and Strategies in the Colonial Period

The Colonial Administration recognised the need to provide clean water because drinking contaminated water increased the risk of water-borne diseases. The Asante Administration Ordinance, 1902, required among other things that persons with barrels or tanks for storing water had to cover them properly and all openings in that receptacle had to be properly secured (ARG 1/14/3/1. Amoako-Gyampah (2021) noted that household sanitary inspection in the Gold Coast began in the late nineteenth century and reached its peak in the first decade of the twentieth century. For example, there were sanitary inspections at the Kumasehene's (Chief of Kumase) residence. In 1914, pipe-borne water in Obuase in the Asante region was provided (ADMS 5/1/113) and in 1934, "pipe-borne, filtered and chlorinated" water supply was provided for Kumase, the capital of Asante (ADMS 5/1/113). The Water Guard, a unit under Public Health Board's sanitary division in Kumase, was tasked with preventing people and animals from tampering with the town's water chlorination facility; even when no disease-causing organisms were present, it was observed that "water containing gritty earth in suspension could cause the most severe virulent diarrhoea" (Adu-Gyamfi et al. 2013). The provision of safe drinking water, without a doubt, aided the prevention of certain contaminated water related diseases. Even in contemporary times, Echenberg (2011) has argued that promoting an awareness of the role of drinking water in cholera transmission is needed as a control mechanism.

Important was the Infectious Disease Act, 1908, which aimed at preventing the spread of infectious and contagious diseases. The act reemphasised quarantine as a means to curtail the spread of infectious diseases and criminalised the withholding of information about infected persons (Infectious Disease Act, 1908). In 1915, the Quarantine Ordinance was passed to prevent the introduction of plague and other infectious diseases that

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entered the Gold Coast through the ports by quarantining individuals before they had contact with persons in the local communities (ADMS 5/1/113). From 1928-1929, Quarantine Regulations in conformity with the International Sanitary Convention, 1926, were adopted to protect countries from infectious diseases including cholera (ADMS 5/1/113).

Dr. Dalziel, the Senior Sanitary Officer of the Gold Coast in the 1920s, believed in a systematised approach of providing public education that would deal with the sanitation quandary (Public Records & Archives Administration Department [PRAAD] Kumase, 1920). Correspondence in 1924 between sanitary officials in Kumase and Victoriaborg, following the outbreak of bubonic plague in Kumase, shows how cholera might have been prevented during the colonial period. Recommendations included adequate pipe-borne water supplies, surface drainage systems, efficient refuse disposal systems, licensing food vendors, additional legislation, and increased sanitary staff (PRAAD, ARG 1/14/2/1). In 1926, the Acting Medical Officer, Selwyn-Clarke, recommended some amendments which could help strengthen byelaws to abate nuisances in Kumase (MAG 1/17/1B). The occupier or owner of a premises was responsible for the clearing of weeds and cleaning the street and drain gutters, including clearing weeds from any adjoining land situated within 20 yards of the premises (MAG 1/ 17/1B). Sanitary inspections were very important in Kumase and the training of sanitary inspectors continued even when it was stalled in Accra (ADMS 5/1/113).

Up to 1934, the Gold Coast Colony Report on the Medical Department indicated that cholera had not been recorded in the country. However, as part of efforts to prevent and control the spread of infectious diseases, public health ordinances and acts designed to prevent certain diseases also aided the prevention of cholera, including the careful disposal of "night-soil" and provision of up-to-standard toilet facilities; the control of market centres and protection of foodstuffs; and education of the public about the dangers of flies and the proper disposal of refuse to prevent the breeding of vermin (Report of the Medical Department 1934). In Kumase, a disinfection station was set up. Regular disinfection exercises were carried out for immigrant labourers from the North; they were shaved, bathed, and had their clothes disinfected to prevent them from harbouring diseases. The disinfection exercises in Kumase usually occurred in the Zongos (ADMS

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5/1/113). These efforts had the propensity to mitigate diseases that resembled cholera.

Improvement in housing to prevent overcrowding, extension of layouts in the towns and rural areas, and education of people of all ages and classes with particular emphasis on the school child, largely contributed to the prevention of diseases and improved the general health and well-being of the local population. Prevention of helminthic diseases (ankylostomiasis, ascariasis, taeniasis) required the proper disposal of sewage and provision of toilet facilities as well as eating well-prepared foods, which also had the propensity to prevent diarrhoeal infections. From the notes of an interview between Kumase Bread Sellers and the Chief Commissioner of Asante, the Commissioner advised that bread should be baked in sanitary places away from flies and dust (PRAAD, 1928). The 1934 Report also indicated that missionary groups played an important role in educating the people by exhibiting exemplary acts in cleanliness, which had far-reaching effects in preventing diseases. Sanitary inspections were an important aspect of the activities of the colonial administration. They served as a tool to check unsanitary conditions or activities tagged as nuisance and injurious to health and well-being(Towns Act, 1892; Amoako-Gyampah, 2021).

There were some collaborative efforts between traditional and colonial authorities to safeguard the health of the local population. Indeed, the Kumasehene (the chief of Kumase) wrote to the Senior Sanitary Officer requesting an inspection of a poultry yard he had built on his premises (MAG 1/17/1B). The memorandum the senior officer sent following the inspections stated that cattle pens should be kept a distance away from his main residence and pigs should be reared outside the town's boundary to prevent contracting diseases from them (MAG 1/17/1B). In 1929, the Medical Officer of Health drew the attention of the Kumasehene, Nana Prempeh, to the filthy state of his premises, which aided the breeding of mosquitoes that were injurious to his health including the public's health. The Kumasehene took action to ensure proper sanitation of his premises (MAG 1/17/1B). The District Commissioner advised that residents paid a sanitation fee to receive improvements. They set up a sanitation committee to oversee sanitation, but the commissioner reported that education was more important to deal with the bad environmental hygiene (ARG 1/14/3/8). On 23rd December 1933, an inspection was carried out in Konongo Gold Mines in Asante by the Senior

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Health Officer who advised that both combustible and incombustible refuse should be disposed in covered pits or in incinerators instead of throwing it away indiscriminately in surrounding bushes. He further advised that instead of emptying pails of sewage or night soil in surrounding bushes which bred fly-maggots, sewage could be disposed into fly-proof disposal pits; alternatively, roofed, screened pit-latrines of width, three inches, and depths of at least twenty inches, could also be constructed in place of crude panlatrines (ADMS 5/1/113). Again, it was apparent that strengthening legislation that dealt with rural and township sanitation could achieve satisfactory results and such efforts by the colonial administration reduced diseases that came about as a result of poor sanitation. Several of these policies were replicated in post-colonial policies

Certain by-laws also helped traditional rulers to maintain hygienic standards and established penalties for violations (Adu-Gyamfi et al., 2013). Chiefs in Asante embraced these by-laws, especially in the early twentieth century (Adu-Gyamfi et al., 2013). The Asante Confederacy Native Authority issued directives in 1935 under Section 9 of the Native Authority Ordinance, which gave instructions to chiefs of various villages in Asante to build latrines and dumpsites (PRAAD Kumase, ARG 1/14/2/1). The improvement of these basic facilities, superintended by the chiefs and headmen, had the propensity to curtail sanitary and environmental related diseases including cholera.

Cholera in Post-Colonial Asante

In Asante, the Kumase Metropolitan Assembly (KMA), established in 1988, became the governing body overseeing sanitation (Ghana Statistical Service, 2014). Such assemblies traced their origins from the colonial period, especially from the creation of the Kumase Public Health Board and the emergence of District and Town Councils from the 1940s onwards. Although the study area, Ayigya Zongo, ceased to be part of the KMA in 2018, for the most part KMA was the administrative authority in charge of the community. It played an active role in the prevention of diseases including cholera through health education and routine checks by environmental health officers at markets, homes, food vendor spaces and hospitality facilities. The KMA imposed punishments including fines, seizures of equipment, and imprisonment of persons flouting the rules. An interviewee hinted that

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Kumase is a hotspot for cholera outbreaks: the population of the city keeps rising steadily, with many people found in slums and squatter settlements with inadequate access to sanitary facilities (Interview with Simon Owusu, Deputy Prosecutor, KMA. 28th September 2021, at KMA Office).

Jahan (2016) has argued that the social, behavioural, and demographic characteristics of individuals and communities directly influence cholera outbreaks and their spread. Awareness about cholera and action against sanitary-related diseases among residents was keenly dependent on factors such as age, educational background, and socioeconomic status. On the part of city officials, cholera prevention was determined mainly by financial strength, which dictated the effectiveness of garbage collection, public education, and vaccination. It is clear that the current institutional action geared toward the fight against cholera is not dissimilar from the actions which were taken during the colonial period. Contemporary institutions are a semblance of the colonial institutions, which performed similar functions to prevent infectious diseases in the first instance. The continuation of such efforts could prevent the outbreak or continuous existence of cholera by 2030, as anticipated by the WHO (WHO, 2023). Individual interventions against cholera refer to preventive measures that individuals adopt for themselves against cholera. Communal interventions are preventive measures city and municipal officials and units adopt for the protection of the public from cholera and other sanitary-related diseases. According to the WHO (2021), the scope of disease prevention encompasses "specific, population-based and individual-based interventions for primary and secondary early detection and prevention... to minimize the burden of diseases and associated risk factors". UNICEF (2013) has reported that "the risk of transmission, illness and death from cholera is proportional to the interaction of cholera with the host and the environment." A combination of both individual and communal measures could prevent cholera on a wide scale.

UNICEF (2013) acknowledges that early detection and effective treatment is critical, but equally so is individual awareness and knowledge. In our sample, varying responses were given on what individuals would do if they experienced severe vomiting and frequent diarrhoea. Residents who had some formal education knew more about cholera than those who had

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little or no formal education and it could be argued that residents in Ayigya Zongo who know the key symptoms of cholera would be able to identify a suspected case for themselves or those around them. 55% of the respondents indicated that they would either prepare and drink an Oral Rehydration Salt (ORS) solution or a salt and sugar solution. Others suggested that they would take Colodium capsules, a drug that causes relief of acute and non-specific diarrhoea (MIMS, 2021). 45% of the respondents indicated that they would visit the pharmacy for medication. It was after symptoms persisted or worsened that respondents indicated visiting a hospital. We note that their means of "self- medication" using ORS is consistent with the treatment recommendations of WHO (2021). The result also reaffirms the conclusion of Donkor et al. (2012) who hypothesised that the incidence of selfmedication in Ghana is high. Asked how cholera is a threat to public health, 100% of the respondents indicated that cholera could lead to death or other dire consequences. This reinforces their positive level of awareness about cholera. Respondents were aware of the risk of consuming unclean food and water. Two interviewees were sceptical about buying food from food vendors reputed to prepare food with rotten foodstuffs including cooking and selling under unhygienic conditions.

Under the Local Governance Act of 2016, the Oforikrom Municipal Assembly like other Metropolitan, Municipal and District Assemblies (MMDAs) is responsible for the "development, improvement and management of human settlements and the environment". Simon Agangiba, an interviewee and an assistant to the Municipal Environment Officer, argued that the role of the Environmental Health and Sanitation Unit has been to identify disease risk factors and address them (Interview with Simon Agangiba, Assistant to Municipal Environmental Officer, 24th September 2021). People could protect themselves against cholera by practising personal hygiene and using modern toilet facilities such as flush toilets and bio-digesters. This prevention guideline has similarly been encouraged by the Centers of Disease Control and Prevention (CDC, 2020). The CDC (2020) has also advised that faeces should be buried in the ground and away from water sources as a solution to a lack of latrines. The Public Health Act 2012 guides the activities of the MMDAs including the Oforikrom Municipal Assembly and seeks to "prevent disease, promote, safeguard, maintain and protect the health of humans and animals" (Interview with Simon Agangiba).

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The Act mandates the MMDAs to ensure that buildings are erected with permits and have the requisite sanitary prescriptions, and that food vendors are screened and fined or imprisoned when sanitary regulations are disregarded.

Field interviews showed that Ayigya Zongo is an at-risk community for cholera outbreaks due to inadequate sanitary facilities. The community was not properly planned, and settlement patterns do not provide adequate spaces for good sanitary practices (Interview with Simon Agangiba). Inadequate toilet facilities have led to open defecation and inadequate garbage collection systems and encouraged the indiscriminate dumping of refuse, risking cholera outbreaks (Interview with Simon Agangiba). Antwi-Agyei et al. (2019) indicate that a lack of household toilets can be attributed partly to financial barriers and lack of technical support. Some of the environmental health policies implemented in the municipality to prevent cholera include provision of toilet facilities (bio-digesters) in low-income households - 30% of the cost is borne by individuals and 70% by the government. The assembly also carries out home-to-home garbage collection, though the cost is borne by the household; areas that called for improvement were the provision of adequate sanitary facilities and enforcement of the "one house, one toilet" policy which stipulates that each household needs to have its own toilet, and access to pipe- borne water (Interview with Simon Agangiba). The one house, one toilet policy was among the 2016 campaign promises of the current government (Modern Ghana, 2022).

The interview with the head of Disease Control and Surveillance showed that the top priorities of the directorate include the abolition of malaria and diarrhoeal diseases which the Institute for Health Metrics and Evaluation lists among the top ten causes of mortality in Ghana. Two locations within the municipality were seen as places with high risk of cholera outbreaks - Ayigya Zongo and Anloga-Susuakyi in Kumase . In Ayigya Zongo, on a scale of 1-10 with 10 being the worst, the likelihood of a cholera outbreak was 7. This was because of the indiscriminate dumping of refuse, households lacking toilets and the use of "Ventilated Improved Pits" instead of flush toilets. Those regarded as especially vulnerable to infection with cholera were children between the ages of 5-10 years (Interview with Steven Ayinabom, Head of Municipal Disease Control and Surveillance Unit

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at the Oforikrom Municipal Health Directorate, 24th September 2021).

The Disease Control and Surveillance Unit performs periodic disease surveillance in the communities and health centres. Interventions are made with notice of cholera outbreak in any locality. The Directorate provides information through three public health modules: first, "Prevention" (covering the vaccination of infants with Rotavac and the use of WHOrecommended oral vaccines against cholera such as Dukoral, Shanchol, and Euvichol-Plus); second, "Health Promotion" (health education and campaigns in public places such as schools, churches, markets, and mosques); and third, "Protection" (ensuring clean surroundings in collaboration with the Environmental Health and Sanitation Unit Health officers of the Assembly). Public health staff embark on educational campaigns to educate residents, especially nursing mothers on health safety practices as part of efforts in the creation of awareness (Interview with Steven Ayinabom).

The power of education in cholera prevention and control cannot be downplayed. Osei and Stein (2018) have reported that the decline in cholera cases after 18 days during the 2005 outbreak could be attributed to intense educational campaigns on radio, television and newspapers since the beginning of the outbreak. Better outcomes were achieved when education was used in conjunction with improved hygienic practices by individuals as well as the provision of improved water and sanitation by the government (Osei and Stein, 2018). At the same time, the head of the surveillance Unit at the Oforikrom Directorate hinted that the Directorate needed support in logistics and transportation to aid early detection of the disease in the event of a potential outbreak (Interview with Steven Ayinabom).

The WHO (2021) has affirmed that early detection of cholera reduces the disease burden. UNICEF Ghana has indicated that social mobilisation in urban areas for sanitation is difficult due to their multicultural and cosmopolitan nature, and the institutions of local government have limited capacity for collective action (UNICEF Ghana, n.d.). Whilst the United Nations General Assembly (2010) affirms that it is the responsibility of the State to ensure the protection of the rights of its citizens, which include access to water and sanitation (UNGA 2010), Owusu (2010) has argued that poor sanitation is a result of inadequate policy action from central and local government institutions. The weakened capacity of local government

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institutions is attributed to rapid urban growth which has exceeded their ability to provide basic services such as adequate sanitation.

Prevention of Cholera and Other Diseases

The practice of preventing a disease which has the potential of preventing another disease is not alien in the Ghanaian context. For instance, Amoako-Gyampah (2021) indicated that the control of mosquitoes within the colonial period also dealt with yellow fever. At the time of the field interviews, there was no ongoing cholera epidemic in Ayigya Zongo. The majority of the interviewees had not been directly infected with cholera but were able to draw linkages between cholera prevention and its effect on the prevention of other sanitary-related diseases. There was close uniformity in responses from residents, municipal officials, and health workers. Generally, the respondents were of the view that eating good food, drinking clean water, and maintaining clean surroundings are at the centre of the prevention of diseases such as typhoid fever and malaria. According to Adu-Gyamfi et al. (2017), proper waste management has reduced the risk of cholera and simultaneously helped in preventing malaria and typhoid fever. An interview with a Principal Nursing Officer at Bomso Clinic showed that the causes of cholera were similar to typhoid fever, and the prevention of cholera led to the prevention of typhoid fever (Interview with Vera Duncan, Nurse Manager, Bomso Clinic. 27th September 2021). A Chief Nursing Officer (Intensive Care Unit) at KNUST Hospital, argued that maintaining proper hygiene prevented cholera as well as other diseases. Residents are implored to maintain proper hygiene and to eat balanced meals to enjoy the benefits of good health (Interview with Seth Boateng, Chief Nursing Officer at KNUST Hospital (ICU), 27th September 2021). Similarly, a midwife at the KNUST Hospital suggested that eating warm foods, drinking clean water, and living in hygienic places reduced the risk of cholera infection and typhoid fever (Interview with a Midwife at KNUST Hospital. 27th September, 2021). A resident of Ayigya Zongo noted that regular hand washing reduced the risk of coronavirus infection and could also reduce the risk of cholera infections and several other diseases (Interview with Felicia Achibonga, Resident of Ayigya Zongo, 22nd September, 2021).

A letter to the director of medical services in March 1950 indicated that poor record keeping could be detrimental to the public health system

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(PRAAD Kumase, Illaro Experimental Mosquito Eradication). Field interviews in the contemporary period revealed that some records units in some hospitals in Kumase still do not have records on cholera (Interview with personnel from KNUST Hospital, Records Unit. 27th September, 2021). Neither did the Oforikrom Municipal Health Directorate, which started operations in 2018, hold any data on cholera (Interview with Steven Ayinabom). WHO (2021) indicated that "local capacity to detect and monitor cholera occurrence is central to an effective surveillance system to plan control measures". Without proper means of identifying cholera cases, symptoms would have to be physically identified in the event of an outbreak. There will also be increasing danger when infections spread fast, especially in unhygienic areas (Ohene-Adjei et al., 2017). Often, the identification of cholera is very difficult as most people infected are asymptomatic or exhibit mild symptoms which can be mistaken for diarrhoea (WHO, 2021). According to King et al. (2008), mild or asymptomatic cholera cases affect "the interpretation of epidemiological records."

Health workers who were interviewed revealed that they had not come into contact with any cholera cases in their line of duty. An interviewee, who had worked in the health sector for five years and witnessed persons suffering from cholera, described it as an "emergency condition." (Interview with Vera Duncan, Nurse Manager, Bomso Clinic. 27th September 2021). She further indicated that inadequate preventive action from city officials and late reporting by victims in the event of infection may have grave consequences. A general nurse (2021) at KNUST Hospital described cholera as "contagious" but thought that with proper surveillance, adequate education, and good sanitary practices the risk of cholera would be fully curtailed (Interview with a General Nurse at KNUST Hospital. 27th September, 2021). The Global Task Force on Cholera Control (2017) has adopted three key measures to ensure that cholera is reduced by 90% in 2030: early detection and quick response to contain outbreaks; a targeted multisectorial approach to preventing cholera recurrence; and an effective mechanism of coordination for technical support, advocacy, resource mobilisation, and partnership at local and global levels (GTFCC, 2017).

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Conclusion

Cholera is a diarrhoeal disease and is largely linked to poor sanitation. It may rightly be regarded as the "poor man's disease" because in most cases poor people do not have access to proper sanitary conditions. Rapid urbanisation, spikes in population, and deteriorating levels of

sanitation have led to several incidences of cholera outbreaks in Ghana. The risk of further outbreaks is high when underlying causes have not been properly addressed. Before independence, the colonial administration was in charge of public health and standards of sanitation were achieved through taboos, communal labour, and punishments. Due to the efforts of traditional rulers and the colonial administration on sanitation especially, the outbreak of cholera was held at bay until the 1970s. Contemporary field interviews have confirmed local knowledge of cholera in Ayigya Zongo, including the knowledge of symptoms. Persons living in slums or without adequate access to proper sanitary requirements understand the importance of sanitation in preventing sanitary-related diseases such as cholera and their knowledge may largely be attributed to media campaigns and health education by municipal and metropolitan assemblies. However, socioeconomic conditions, especially poverty, hinder access to required sanitary facilities. The study also established that the prevention of cholera tends to prevent other sanitaryrelated diseases and solutions have emanated from some continuities in adopting earlier colonial policies that suffice in contemporary times. This is especially shown in the Assembly's fight against cholera in Ayigya Zongo. We conclude that continuing research of continuities and discontinuities in the fight against cholera is important. A successful resolution in Ayigya Zongo, especially obtaining a zero percentage or 90 percent success in the fight against cholera by 2030, would be a good model for the fight against cholera in other territories or communities in West-Africa, Ghana and Asante in particular.

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