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# Male Prisoners' Perspectives of Access to Quality Health Care at a Prison Infirmary in Ghana

**Augustine Adomah-Afari[1], Samuel Kojo Ntow[2], Kwasi Awuah-Werekoh[3], and Terrylyn Baffoe-Bonnie[4]**

## Abstract

This study assessed factors that influence access to quality health care among a prison population nearing its release in Ghana. A structured quantitative questionnaire was administered to 200 inmates using a total population sampling. Gap analysis was performed between inmate expectations and perceptions of health provider factors to determine quality. There was an overall negative gap due to expectations exceeding perceptions. This article recommends that a policy document on the health and welfare of inmates be developed and implemented to improve their access to quality health care.

## Keywords

Ghana, access to health care, male inmates, prison infirmary, prisons health care, quality of care

[1]University of Ghana, Legon, Ghana
[2]West African Recue Association, Takoradi, Ghana
[3]Ghana Institute of Management & Public Administration, Accra, Ghana
[4]Korle-Bu Teaching Hospital, Accra, Ghana

**Corresponding Author:**
Augustine Adomah-Afari, University of Ghana School of Public Health, College of Health Sciences, JRP8 + PW9, Accra, Ghana.
Email: afari@ug.edu.gh, augustineafari@yahoo.co.uk

## Introduction

The World Health Organization defines a health system as all the activities whose primary purpose is to promote, restore, or maintain health. The World Health Organization (WHO, 2018; Kok et al., 2017) defined a health system as a social institution in which health worker performance is shaped by transactional processes between different actors. Many researchers have noted the necessity of a well-functioning health system in dealing with poverty, illness, and disease burden (Coker, Atun, & McKee, 2004; Atun, 2012). Atun (2012) emphasizes the need for health system innovations generally, but acknowledges that there are challenges to understanding how these innovations could be effectively introduced to interact with health system variables to influence health outcomes.

It appears that most prisons worldwide, especially in Sub-Saharan Africa in general and Ghana in particular, do not have well-structured health care facilities (Adjei, et al., 2007, 2008). This presupposes that prisoners could harbor certain health conditions over time before they are released into the general population. Since correctional surveillance systems are relatively inadequate in identifying such cases, it means that this can heighten the rate of contamination or infection in communities upon inmates' release (Binswanger, et al., 2011). Topp, et al. (2016) demonstrated a deficiency in health system factors, such as a lack of essential medical equipment and medications in prisons that necessitate external referrals, as well as a lack of qualified personnel and inability to pay for health services rendered—all of which affect the quality of health service provided to inmates in Zambia.

Some researchers have conceptualized access to health care and identified determinants that affect it, including health systems, health providers, and individual and population factors (Levesque, Harris, & Russell, 2013). Levesque et al. (2013) defined access as the opportunity to identify health care needs, to seek health care services, to reach, obtain or use health care services, and to actually have the need for services fulfilled. They also outlined the five dimensions of accessibility as approachability, acceptability, availability, affordability, and appropriateness. These five dimensions, in turn, interact with five corresponding abilities of the population namely: the ability to perceive, the ability to seek, the ability to reach, the ability to pay, and the ability to engage to generate access. Other methods of assessing quality health care include the service quality (SERVQUAL) scale or model: Tangibles, Reliability, Responsiveness, Assurance, and Empathy (Parasuraman, Zeithaml, & Berry, 1985; Van Iwaarden et al., 2003; Alrubaiee & Alkaa'ida, 2011). Importantly, the clients' assessment is nontechnical, as they cannot assess the technical aspects of health care provision. However, the health provider factors that could affect

patients' assessment of quality health care include the attitude of health staff, trust in them and their competence, and facility waiting times, among others (Alrubaiee & Alkaa'ida, 2011).

This assessment is against the backdrop of estimates of the world's population at more than seven billion—with more than 10.35 million people held in correctional institutions, at a rate of 144 per 100,000 of the population (Prison Studies, 2018). This number includes remand prisoners and convicts. Worldwide figures show that a higher percentage of incarcerated persons are male, ranging from approximately 80% in Hong Kong to 100% in San Marino (Prison Studies, 2018). The total population of incarcerated persons in Ghana had increased from 4,852 in 1982 to 9,507 in the year 2000 to almost 14,000 in 2018. This increase without a commensurate increase in prison infrastructure naturally leads to overcrowding. The current occupancy level based on the official prison capacity is 141.7%, making Ghana the 56$^{th}$ most overcrowded prison system in the world (Prison Studies, 2018).

Adjei et al. (2008) observed that there was a higher prevalence of HIV and HCV in correctional facilities and prisons than in the general population in Ghana. This calls for the need to assess factors influencing access to a quality health care among incarcerees to stem the tide of cross-infection between the prison population and the general population. However, few studies had examined the health care challenges and factors influencing access to a quality health care among male inmates in Ghana (Adjei et al., 2007, 2008). Meanwhile, a staggering majority of the Ghanaian prison population (86%) is male (Prison Studies, 2018). Therefore, this study examined factors influencing access to a quality health care in a male prison population nearing its release at the James Camp Prison (JCP) in Accra.

## Method

### *Study Design*

The study applied a descriptive cross-sectional study design, using quantitative methods to collect data between June and July 2018 for subsequent analysis (Setia, 2016).

### *Study Area*

The study was conducted in the JCP in the Greater Accra Region. Accra is the national capital of Ghana, and has a population of approximately 2.27 million, 8% of Ghana's estimated population of 29.4 million. The JCP is one of the 43 prisons in Ghana; it is one of the three Open Camp Prisons and serves as a

"halfway home" where rehabilitation and training of prisoners are undertaken before release (Ghana Prison Service, 2018). Generally, the prison holds short-sentenced prisoners received from several prisons in the southern part of Ghana instead of directly from the courts. As an Open Camp, prisoners have more interaction with the community. The staff strength of the prison was about 232 officers.

## Study Population, Sampling, and Sampling Size

All adult male prisoners who were more than 18 years at the JCP were engaged in the study. This population was selected as there appears to be a lack of relationship between Ghana's prison system and the national health system in respect to the provision of quality health care for inmates (Sarpong et al., 2015). Despite their limitations, both purposive and convenience sampling techniques were applied to select all the 250 adult male prisoners who were able and willing to participate in the study—a total population sampling was applied (Thompson, 2013; Etikan, Musa, & Alkassim, 2016).

## Questionnaire Design and Administration

The quantitative tools employed were: (1) a structured questionnaire with sections on inmate factors (sociodemographic characteristics) and access to health care and (2) the modified SERVQUAL-type questionnaire which was constructed by retaining some items from the updated SERVQUAL dimensions: Tangibles; Reliability; Responsiveness; Empathy; and Assurance (Parasuraman, Zeithaml, & Berry, 1994). The third questionnaire included 36 items to assess health care quality by asking inmates to rate provided services. A 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5) was applied. The items were based on health care provider factors such as reception/attitude of health staff, trust in health providers, competence of health staff, and waiting time. The questionnaires were interviewer-administered to the participants, on a strictly voluntary basis by two trained research assistants. Each questionnaire was administered within a period of 10 min at locations designated by the prison officers.

## Data Analysis

The returned questionnaires were "cleaned," edited before coding, and entered into the STATA software package, Version 15, and analyzed using descriptive and inferential statistics. Accessibility, adequacy, and affordability were assessed using three questions each. With the highest possible score being

15, scores of 9 and below were defined as *poor access*; scores between 9 and 12 were defined as *moderate*, and scores above 12 were defined as *high access*. Similarly, acceptability was measured using four questions. Here, the highest possible score was 20; with scores 12 and below defined as *poor access;* scores between 12 and 16 defined as *moderate*, and scores above 16 defined as *high*. Availability was measured using five questions where the highest possible score was 25; scores 15 and below were defined as *poor accesses*; scores between 15 and 20 were defined as *moderate*, and scores above 20 were defined as *high*.

Bivariate analyses were completed for each of the sociodemographic factors in relation to access to health care. The level of significance was accepted at $p < .05$. Logistic regression analyses were also conducted to determine the predictors of access to health care at a 95% confidence interval. The internal consistency of the SERVQUAL scale was determined by calculating the Cronbach's alpha value for the overall scale and for the five individual dimensions. Alpha is a value that ranges from 0 to 1; the commonly accepted limit of the alpha value is 0.7 (Nunnally, 1978), but values as low as 0.6 and 0.5 have been used as limits in the literature (see Hair, Anderson, Tatham, & Black, 1998; Wright, & Gudjonsson, 2007). SERVQUAL was calculated as the difference between the perception and the expectation for each dimension, known as the *gap*—the higher the *gap* score, the lower the quality (Parasuraman et al., 1988).

### *Quality Assurance and Ethical Consideration*

The questionnaire was pretested in a randomly selected male prison in the Accra Metropolitan Assembly area before administration in the main study. Ethical clearance was granted by the Ghana Health Service Ethics Review Committee (with reference number: GHS-ERC 013/04/18). Moreover, approval was given to undertake the research at the JCP by the prison administration. Participants either signed or "thumb printed" a consent form before their participation.

## Results

### *Sociodemographic Characteristics of Respondents*

In all, 200 out of the 250 male prisoners responded to the questionnaires. Most of the prisoners in the JCP were short-sentenced prisoners, primarily incarcerated for theft or robbery. About 118 (59%) of prisoners had been transferred from Nsawam Prisons, and 42 (21%) Koforidua Prisons. The remainder were from the Ho, 8 (8%), Winneba, 5 (5%), Kpando, 4 (4%), and Aflao, 3 (3%)

Prisons. The age range of the respondents was 26–35 years—84 (42%); 18–25 years—77 (38.5%), and 55 years and over—6 (3%). Seventy five (37.5%) had junior high school education; 53 (26.5%) completed up to primary school; 37 (18.5) had no educational experience, while 35 (17.5%) had received secondary education or beyond. The majority of participants—110 (55%)—were married/cohabiting; 80 (40%) were single, and only 3 (1.5%) were widowed. In terms of occupation, 156 (78%) were self-employed while 11 (5.5%) were unemployed prior to incarceration. For religious identification, 143 (71.5%) said they were Christian; 41 (20.5%) Muslim; and 16 (8%) belonged to the "other" religions. Their regions of origin were 78 (39%)—Akan, 66; (33%)—Ewes, and 27 (13.5%) were from Ga and Northern extraction (Table 1).

## *Access to Quality Health Care and Individual Dimensions of Access*

The results showed that 127 (63.5%) respondents rated the overall access to health care as poor; 73 (36.5) rated the access as moderate, and no respondent gave health care access a high rating. The overall access was measured using a scale with 18 questions grouped under the five main dimensions: acceptability, accessibility, availability, adequacy, and affordability. Internal consistency of the instrument was assessed by Cronbach's coefficient α. This was estimated to be 0.8314, exceeding the level of acceptance of 0.700. The findings are determined to be reliable in assessing the level of health care access. (The lowest possible score was 18, and the maximum was 90. Scores of overall access at 72 and above were classified as perceived high access; scores between 55 and 72 as moderate, and scores of 54 and below were classified as poor access).

The individual dimensions were also assessed separately. A sum total of the answers for each dimension was computed and scored. The availability dimension assessed access to quality drugs, variety of services, and effective treatments. In all, 92 respondents rated availability as moderate, and 70 assessed it as poor. The queried acceptability factors included health provider confidentiality, honesty, and trustworthiness. Overall, 85 (42.5%) of study participants found the health care provided in the prison as highly acceptable. This dimension of access had the highest number of respondents reporting high access, compared to the four other dimensions. The questions on accessibility sought to establish whether the infirmary and health care were easily accessible in terms of distance/geography and time, including access considerations for the disabled persons.

For 96 (48%), accessibility was rated as moderate; 69 (34%) high; and 35 (17.5%) rated it as poor. The adequacy dimension of access asked respondents to rate patient-health provider contact time and waiting time to see a health provider, and for referral. Another 99 (49.5%) of respondents rated this dimension

**Table 1.** Sociodemographic Characteristics of Respondents.

| Variable | | Frequency | Percentage (%) |
|---|---|---|---|
| Prison transferred from | Nsawam | 118 | 59 |
| | Koforidua | 42 | 21 |
| | Ho | 16 | 8 |
| | Winneba | 10 | 5 |
| | Kpando | 8 | 4 |
| | Aflao | 6 | 3 |
| | Total | 200 | 100 |
| Age | 18–25 | 77 | 38.5 |
| | 26–35 | 84 | 42 |
| | 36–45 | 24 | 12 |
| | 46–55 | 9 | 4.5 |
| | Above 55 | 6 | 3 |
| | Total | 200 | 100 |
| Education | Secondary and above | 35 | 17.5 |
| | JHS | 75 | 37.5 |
| | Primary | 53 | 26.5 |
| | None | 37 | 18.5 |
| | Total | 200 | 100 |
| Marital status | Married/cohabiting | 110 | 55 |
| | Single | 80 | 40 |
| | Divorced | 7 | 3.5 |
| | Widowed | 3 | 1.5 |
| | Total | 200 | 100g |
| Occupation/employment | Employed | 33 | 16.5 |
| | Self-employed | 156 | 78 |
| | Unemployed | 11 | 5.5 |
| | Total | 100 | 200 |
| Religion | Christian | 143 | 71.5 |
| | Muslim | 41 | 20.5 |
| | Others | 16 | 8 |
| | Total | 200 | 100 |
| Ethnicity | Akan | 78 | 39 |
| | Ewe | 66 | 33 |
| | Ga | 27 | 13.5 |
| | Northern extraction | 27 | 13.5 |
| | Others | 55 | 27.5 |
| | Total | 200 | 100 |

as moderate, while the remaining were split almost evenly—50 and 51—between poor and high ratings, respectively. The affordability dimension assessed funding options for health care. It considered financial support,

**Table 2.** Access to Quality Health Care and Individual Dimensions of Access.

| Access Parameter | Frequency | Percentage | 95% CI |
|---|---|---|---|
| Access to health care | | | |
| Poor access | 127 | 63.5 | 56.7–70.2 |
| Moderate access | 73 | 36.5 | 29.8–43.2 |
| High access | 0 | 0 | 0 |
| Total | 200 | | |
| Availability | | | |
| Poor | 70 | 35 | 28.3–417 |
| Moderate | 92 | 46 | 39.0–53.0 |
| High | 38 | 19 | 13.5–24.4 |
| Acceptability | | | |
| Poor | 50 | 25 | 18.9–31.1 |
| Moderate | 65 | 32.5 | 26.6–39.0 |
| High | 85 | 42.5 | 35.6–49.4 |
| Accessibility | | | |
| Poor | 35 | 17.5 | 12.2–22.8 |
| Moderate | 96 | 48 | 41.0–55.0 |
| High | 69 | 34 | 27.9–41.0 |
| Adequacy | | | |
| Poor | 50 | 25 | 18.9–31.1 |
| Moderate | 99 | 49.5 | 42.5–56.5 |
| High | 51 | 25.5 | 19.4–31.6 |
| Affordability | | | |
| Poor | 122 | 61 | 54.1–67.8 |
| Moderate | 65 | 32.5 | 26.0–39.0 |
| High | 13 | 6.5 | 3.1–9.9 |

insurance coverage; and had the lowest rating as 122 (61%) inmates rated it as poor. In sum, overall access to health care by an inmate was viewed as poor. Notably, the access dimension of acceptability was rated the highest, while affordability was rated the poorest (Table 2).

The quality of health care was assessed using the modified SERVQUAL scale with gap scores calculated. The internal consistency of the SERVQUAL scale was determined by calculating the Cronbach's alpha value for the overall scale. The individual perception and expectation scales as well as each of the dimensions in the scale were tested. The Cronbach's alpha for the overall SERVQUAL scale had a value of 0.73, which was determined to be

**Table 3.** Internal Consistency of the SERVQUAL Scale/Cronbach's Alpha for the SERVQUAL Scale.

| Dimension | Expectation | Perception |
|---|---|---|
| Tangibles | 0.809 | 0.634 |
| Reliability | 0.781 | 0.727 |
| Responsiveness | 0.817 | 0.722 |
| Assurance | 0.881 | 0.860 |
| Empathy | 0.825 | 0.824 |

SERVQUAL = service quality.

valid in accessing the quality of health care. The Cronbach's alpha values were 0.65 for the perception scale and 0.73 for the expectation scale. Table 3

In the ***gap*** analysis, SERVQUAL was calculated as the difference between the perception and the expectation for each dimension categorized as the gap (Parasuraman et al., 1988). Average overall expectation was found to be 4.65, with the highest expectation in the assurance dimension. Average perception was 3.41 with the highest perceived quality in assurance dimension. Generally, the inmates' expectations outweighed their perceptions of quality of health care, with an overall gap of −1.24. The dimension with the lowest gap score was the tangibles (−1.09), and the responsiveness dimension had the highest gap (−1.46). For assurance and empathy, the gap score was the same (−1.22). The greatest individual average gap score was −1.53, which corresponded with whether inmates received prompt service without an appointment and were given adequate information about their health condition, both of which are responsiveness dimensions. The lowest individual average gap score was −0.59 corresponding with the neatness and disciplined nature of health providers, a tangibles dimension. Average perception was highest in the assurance and empathy dimensions and least in the reliability and responsiveness dimensions (Table 4).

## Discussion

### *Access to Inmate Health Care*

The study found that overall access to health care was poor, with most inmates rating access as poor, and the remainder rating it as moderate. This finding is similar to an earlier prison health care study of inmates in Montreal Island in which inmates gave a low rating to health care accessibility (see Paez, Mercado, Farber, Morency, and Roorda, 2010). The current study's results

**Table 4.** Gap Analysis of Quality of Health Care.

| Dimension | Expectation | Perception | Gap Score (P-E) |
|---|---|---|---|
| **Tangibles** | | | |
| T1 | 4.72 | 4.13 | −0.59 |
| T2 | 4.67 | 3.86 | −0.81 |
| T3 | 4.42 | 2.93 | −1.49 |
| T4 | 4.48 | 3.03 | −1.45 |
| **Average gap score** | **4.57** | **3.49** | **−1.09** |
| **Reliability** | | | |
| Rel1 | 4.35 | 3.18 | −1.17 |
| Rel2 | 4.31 | 3.09 | −1.22 |
| Rel3 | 4.32 | 3.15 | −1.17 |
| **Average gap score** | **4.33** | **3.14** | **−1.19** |
| **Responsiveness** | | | |
| Resp1 | 4.76 | 3.52 | −1.24 |
| Resp2 | 4.47 | 2.94 | −1.53 |
| Resp3 | 4.67 | 3.14 | −1.53 |
| Resp4 | 4.84 | 3.32 | −1.52 |
| **Average gap score** | **4.69** | **3.23** | **−1.46** |
| **Assurance** | | | |
| A1 | 4.90 | 3.50 | −1.40 |
| A2 | 4.83 | 3.66 | −1.17 |
| A3 | 4.81 | 3.62 | −1.19 |
| A4 | 4.88 | 3.76 | −1.12 |
| **Average gap sore** | **4.86** | **3.64** | **−1.22** |
| | | | |
| **Empathy** | | | |
| E1 | 4.66 | 3.32 | −1.34 |
| E2 | 4.82 | 3.64 | −1.18 |
| E3 | 4.86 | 3.72 | −1.14 |
| **Average gap score** | **4.78** | **3.56** | **−1.22** |

may be attributed to perception and interpreted through theories of adaptability. For example, hardiness theory defines the state of being hardy—a capacity for sustaining hardship and a capability of surviving under unfavorable conditions related to such traits as courage, boldness, and audacity (Bushy, 2000). Evoking the hardiness explanation, it is known that inmates delay seeking health care, with the first onset of symptoms resulting in deteriorating conditions by the time health care is eventually sought (see Weinert and Long, 1991). As well, hardiness theory may account for a "sicker" population

among prisoner populations, resulting in an increased risk of vulnerability for some (Allison, 2005).

Accessibility was assessed based on proximity to a health facility as well as the availability of health services at any time. Generally, this was rated favorably, with 48% of respondents rating accessibility as moderate, and 34% as high. This was not surprising as the health facility/infirmary of JCP was on the same premises as the facility dormitories. The shift system run by the health providers also ensured that, for the majority of the day, there was access to a health provider and, by extension, the facility. This finding contrasts with another qualitative study that reported drug use, victimization, and living in a rural area as barriers to accessing health services among incarcerated female substance users (Staton, Leukefeld, & Logan, 2001).

Generally, availability was rated unfavorably, with 46% perceiving this dimension as moderate, and 35% as poor/low. This could be explained further by the seeming absence of quality drugs, a limitation in the number of services provided by the facility due to lack of skilled personnel, and a shortage of basic equipment. This is supported by the argument that although correctional inmates and ex-offenders are disproportionately burdened by medical and mental health problems, services are inadequate (Hammett, Roberts, & Kennedy, 2001). Similarly, affordability of health services received the lowest rating and contributed significantly to the overall poor rating of access to health care. Many in this study lacked family support, and finances were provided mainly by the prison service. This was congruous with findings that, generally, poorer people have reduced access to health care, especially in the absence of social support systems (Peters, et al., 2008).

The acceptability dimension, which assessed health provider characteristics like compassion, honesty, and confidentiality, was rated the highest (42.5%), compared with the four other dimensions. It could be concluded that health providers' attitudes toward those seeking medical attention were generally good, and this informed their perception of access to health care. This finding contradicts with at least one report that a lack of comfort with providers was a major barrier to access to health care services (Higgs, Bayne & Murphy, 2001). The adequacy of the services was assessed based on patient–health provider contact time and waiting time to see a health provider, and for referral. The responses in this dimension were mostly moderate (49.5%). This resonates with findings in the literature that longer waiting time at a facility prior to receiving medical attention was a barrier to access in the general population, and may be explained by the bureaucracy involved in obtaining an external referral (See Ahalt, et al., 2013).

## Quality of Health Care

The SERVQUAL instrument was adapted to determine quality in this study mainly because of its focus on clients' perspective of quality and attributes and attitudes of the health providers (Parasuraman et al., 1988; Alrubaiee & Alkaa'ida, 2011). Respondents' expectations generally outweighed their perceptions, meaning that there was overall lower quality than expected. The gaps indicated that for the individual dimensions in terms of quality, the tangibles dimension was ranked highest since it had the least gap, followed by reliability, assurance, and empathy, with the responsiveness dimension having the lowest rating of quality. The tangibles/tangibility dimension was rated as the most favorable for quality, with the lowest overall gap score (1.09) for the neatness and disciplined nature of the prison health providers. This contrasts with findings that in many developing countries, the tangibles dimension received the highest gap score (Yousapronpaiboon, 2014). Yet, this was not unexpected since all the health providers were prison officers and were required to comport with the standards of the service. However, still in the tangibles dimension, presence of modern equipment and good toilet facilities had some of the lowest gap scores (1.49 and 1.53, respectively). These findings are illustrated in other studies that emphasized the use of modern equipment as an indicator of quality (Yusof, Hassan, Rahman, & Ghouri, 2012).

The responsiveness dimension received the lowest quality rating, with the greatest gap score overall weighting it the poorest or least quality dimension (1.46). Two variables under the responsiveness dimension—prompt service delivery and communication of health information—had the overall greatest individual gap as well (1.53). This is supportive of other research that reports patients' perceptions of the quality of their health care were highly dependent on the quality of their interactions and information received from health providers (Ha & Longnecker, 2010). Further, longer waiting times to access health care have been associated with overall perceptions of lower health quality, and also seen as a barrier to access (Ahalt et al., 2013).

The assurance dimension was used to assess the accuracy of the health service provided and, to a large extent, the competence of the health providers and their ability to inspire trust and confidence. The gap recorded in this dimension was considerable, at 1.22. This was consistent with the literature on this dimension as a predictor of quality (Yusof et al., 2012). Specifically, this gap could be minimized by improving health providers' skills through continuous training to enhance service quality. The empathy dimension had the second highest average—expectation (4.78) and perception (3.55)—indicating the value inmates placed on empathy factors as a determinant of quality health

care. Similarly, literature illustrates that empathy, which is the approach to the patient, has an implication for the quality of health care (Karydis, Komboli-Kodovazeniti, Hatzigeorgiou, & Panis, 2001). The reliability dimension had the second lowest gap score (1.19), consistent with research indicating it is an important predictor of quality of care (Yusof et al., 2012).

## Conclusion

This study examined factors influencing access to quality health care by inmates of the JCP, Accra, Ghana. The investigation concludes that, overall, access to health care was rated poor to moderate, with the greatest barrier to access being health services affordability. Based on the gap analysis between inmates'expectations and perceptions of health provider factors to determine quality, there was an overall negative gap due to expectations exceeding perceptions (1.24). The greatest gap was in the responsiveness dimension (1.46), with the lowest gap in the tangibles dimension (1.09). This conclusion is supported by findings of other studies conducted in other correctional settings (see Baybutt, Dooris, and Farrier, 2018).

The findings of this research are relevant for policy makers, prison authorities, and practitioners in the health sector in Ghana and elsewhere (see Jacobs, and Giordano, 2018). It should be noted that the health sector of Ghana seeks to provide health care that is of quality to all citizens and residents of the country. Against this background, the national health insurance scheme was introduced to ensure financial access to health care (Agyepong et al., 2016). While the government has made efforts to provide health care to people who are incarcerated by providing prison infirmaries, the evidence in this study suggests that these are inadequately resourced in terms of human, material, and financial resources. The current findings provide a platform for health policy makers and prison authorities to consider strategies to reinforce an effective referral system between the prison health care system and other health institutions in both public and quasi-government health institutions. This would be possible if the health policy makers and prison authorities connect resources to ensure the upgrading of both facilities and human resources of the national prison health care system. Thus, some researchers suggest that program administrators would best serve patient-inmates by strengthening basic services and connections to community-based providers who can provide comprehensive and effective care in prisons (Jacobs, & Giordano, 2018).

Additionally, The Ministry of Health and Ghana Health Service should, in collaboration with the Ghana Prison Service (Ministry of Interior), develop a health policy that will recommend sources of health service financing for incarcerees. The responsibility of funding health care for inmates should be shifted

from the Ghana Prison Service (Ministry of Interior) to the Ministry of Health to ensure health care access equity. Collaboration with local hospitals to provide regular scheduled physician and nurse visits to the prison should be explored. These recommendations would be possible if "a number of ethical, organizational, and structural barriers that are common in correctional health care are eliminated - conflicts related to dual loyalty for health professionals; the provision of health care that is equivalent to the community standard in a unique health care delivery system; the assurance of timely access to health care professionals despite the competing demands of security in the facility; and the clinical independence of health care staff to ensure that the decisions made are in the best interests of their patients/prisoners" (Pont et al., 2018, p. 472).

Another policy change for exploration would have the authorities of the Ghana Prison Service recruit more well-trained health workers. In the interim, in-service training for existing health staff should be made a priority as well, including but not limited to general health training, inmate education on human rights, and training in specific inmate health issues such as drug use and abuse, addiction, among others. The equipping of the infirmary with essential medications, supplies, and equipment to reduce the external referral rates, and further training and skills acquisition for improved service delivery are also of critical importance. Moreover, opportunities via programming should be established to support inmate health education regarding their rights to ensure prison conditions of safety and health. Méndez (2019) suggests the need to consider "recent developments in international standards, which illuminate the scope of the State's obligations to provide health care to persons deprived of liberty - salient among these being the UN Standard Minimum Rules for the Treatment of Prisoners, known as the Nelson Mandela Rules" (p. 40).

## *Study Limitations and Directions for Future Research*

Several study limitations were encountered with respect to the inadequate prisons health facilities available in Ghana and the noninclusion of female inmates as well as other stakeholders in the prison environment. These issues impeded the collecting of the views of health care professionals and prison administrators. To improve on research endeavors related to the health of prisoner populations, future studies should increase the sample size and the number of prisons, including the larger ones in the country, such as the Sunyani and Nsawam Prisons, among others. Investigations of health conditions affecting inmates, their access to health care, and their quality of health should be conducted regularly to reduce their burden of disease and improve their overall health status.

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## Declaration and conflict of interest

The authors declare that there was no conflict of interest in the conduct of this study. All ethical issues were addressed in accordance with approved standards. Other studies referenced have been duly cited.

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## Author Biographies

**Augustine Adomah-Afari**, PhD, is a senior lecturer in the University of Ghana School of Health, Policy, Planning & Management. His research interests include health systems, reforms, health care quality, relationship marketing, human resources management, and community-based organizations.

**Terrylyn Baffoe-Bonnie**, MBCHB, is a medical officer at Korle Bu Teaching Hospital. Her research interests include health policy, planning, management, and health care quality.

**Samuel Kojo Ntow,** MBCHB, is a medical officer with the Department of Family Medicine, West Africa Rescue Association. His research focuses on maternal and child health, family planning, and quality of care.

**Kwasi Awuah-Werekoh,** PhD, is a lecturer of finance and accounting, Ghana Institute of Management & Public Administration (GIMPA). His research includes civil society and public sector accountability.