



Roles of Police Services, Public Health Officers and Resident Magistrates in the Application of Medico Legal Procedures and Health Laws to Decline Unceremonious Mass Grave Disposal of Unclaimed Corpses by Public Mortuaries in western Kenya

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Abstract

Roles of National police services, public health officers and Resident magistrates. In application of medico legal procedures and Health laws, to reduce the unceremonious mass grave disposal of unclaimed corpses by public mortuaries in western Kenya remains a big challenge of the 21st century in sustaining the cradle quality Primary Health prevention, to the affected population health, attributed to unclaimed /missing corpses precisely, Next of Kin (NOK). Acknowledging police service, must initiate forensic identification, upload photos on Interpol yellow view notices, during the cold storage and “cold hit” period, to enable NOK access, search, do DNA appraisals. Disappointment of Police services to implement the above forensic variables promptly remains a challenge. Have provoked, endless unceremonious mass grave disposal of unclaimed corpses in western Kenya. Low uptake of quality medico legal procedures, attributed to deficiency integrated functional, forensic science department. To coordinate, core disciplines of forensic sciences, as per CAP 63 and 75 criminal Penal codes of Kenya. Public Health officers and Resident magistrates, habitually apply Health laws, governing medico legal procedures, to sustain Primary Health prevention, using Public Health Act CAP 242 and local Government Act CAP 265, to issue affidavits and court orders. Which, effects consents for justice accountability of human remains, as per Human Anatomy Act CAP 249. Human Tissue Act CAP 252, mediate, therapy and cadavers’ approval. However, not enough studies have been completed, to mitigate the persistence challenges of the decreasing, uptake in medico legal procedures, with the current noticeable increase in application of the health laws, to effect unceremonious mass grave disposal by public mortuaries. Thus, the timely need to exploit the study by ascertain the uptake of medico-legal procedures and health laws, and establish, how Knowledge Attitude and Practices of mortuary /forensic service providers effect, unceremonious mass grave disposal. Explored descriptive cross sectional and cohorts’ designs of mixed methods, with Primary and Secondary study populations. Sampling designs were Active convenient purposive, and passive retrospective desk reviews of past 5 years’ records. Using semi-structured questionnaires, retrospective review form, KII, FGD and observation guides. Data, managed by SPSS version 26. Out of 3899 unclaimed corpses acknowledged, 1420, (36%) were improperly mass grave disposal, using Affidavits and court orders; 1262 (32%) adult male, 158 (4%) adult females. While 878, (23%) were fetus and juvenile from the law-neglected cohorts since colonial era. Forensic fingerprints / DNA appraisals by Police services remained insignificant with only 5, (0.165%) valid prevalence, P value 2.33. Issue of court orders by magistrates was significant, OD (0.75, 0.83). Odd of Police service, using secured networks 1-24/7, police signal 7, 8, and Interpol yellow view notices, OD (1.0, 0.97), (RR 0.97). Acquisitive of 1608 autopsies, were dissected, on previously unclaimed corpses to notify on cause and nature of death, 1421 (88%), adult male and 187 (12%) adult female. Deficiency of integrated department of forensic science, capacity building and empowerment in forensic services endured inadequate and tilted. Utmost PHOs 17 (85%), versed with Health laws uptake. However, they had nonexistence valid knowledge, on quality uptake of medico legal procedures, to enhance justice accountability.

Keywords: Medico legal procedure; health laws; resident magistrate; public health officer; primary study population; secondary population

Introduction

Roles of the National police services, Public health officers and Resident magistrates. In application of medico legal procedures and health laws, to decline the unceremonious mass grave disposal of unclaimed corpses, by public mortuaries remain a key challenge globally, regionally and locally in Kenya. Endure the cradle of primary prevention to the affected population health, attributed to unclaimed /missing corpses. Which Next of Kin (NOK) might not find. Medico legal procedures, health laws and health system factors aligned to knowledge, attitude, and quality practices of mortuary/ forensic service providers. Custom the cradle of the Core international legal obligations, among the population health. Which is binding, globally, regionally, and locally in western Kenya, to be observed the department of forensic science in a comprehensive and holistic integration of the core forensic disciplines. The legal obligations consist of, searching for all missing persons / dead or unclaimed corpses; collect the bodies of the dead, respect the bodies of the dead. To preserve any personal effects of the dead, and to restore them to the NOK; take all reasonable steps to identify the deceased and determine the intermediate cause of death through autopsy; and issue a death certificate; commission on human rights, (2010). Unclaimed corpses or Missing Dead Persons are dead people whose relatives are searching for but may probably not be found. Missing persons and reports. Which are usually filed in an occurrence book. A copy of the police service files a company's unclaimed corpses into public mortuary to wait for subsequent steps and autopsy dissections. By medical doctors or pathologists sort medical findings, and write death notification, as per birth and death registration Act, CAP 149.

Autopsy dissections are often, demanded in order to determine, the intermediate cause of and manner of death [1,2]. As this is happening, it is possible that an active cases, could still be on, attributed to fatal injuries of traffic road accidents, homicides, murder, shooting or juvenile abandonment in the public bushes or toilets [3]. More often, the family may be in search of unclaimed corpses and remained null and void, in cases where we have limited uptake of digital uploads of deceased photographs at central points secured by forensic science department, to enable NOK search and identify deceased or missing persons. At this point in times the unclaimed corpses may be found lying even on the floors in public mortuaries, due to congestion. When this transpires, health laws governing medico-legal procedures, are initiated normally to decrease improper unceremonious mass grave disposal, of unclaimed corpses or missing dead persons by public mortuaries.

Health system factors, like mortuary policy guidelines, availability of cold rooms, during the "cold hit" Mutual DNA indexing system CODIS in the Kenya bureau of statistics are now very vital, to mediate for law neglected cohorts, namely fetus and juvenile unclaimed corpses. Forensic infrastructural social amenities equipment, installation, essential reagents, forensic capacity building, of the human resource, are significant in the implementation of quality medico legal frame works [4]. Death is not the end of suffering in

human beings like adults [5]. Dead occurrence is sudden that, when it happens, where no one is in position of identity patch/card at diagnostic triangle of crime scene. Family members or friends or relatives, have no idea about the whereabouts of said dead person, we call him/ her as unclaimed bodies in his/her own country, because there is no claimant at that point of admitting in a public mortuary and that may last there for more than 90 days of cold storage and "cold hit" for medico legal cases and 28 days for clinical dead cases, before processed for mass grave disposal [6,7].

World Population Data (WPD) sheet established that, global population mortality of unclaimed bodies in developing countries is over 44 million per annum for the dispersed demographic cohorts [8]. Majority 38,720,000, (88%), from the global unclaimed corpses, are instituted in Sub Saharan Africa (SSA), where Kenya is biologically located. Kenya records over 1.2 million of unclaimed corpses mortalities transversely in the demographic cohorts annually of which, 756,000, (63%), [6], mainly attributed to road traffic accidents, homicides, fetus and juvenile abandonment in bushes or latrine/toilets, and suicide. Are examples of a few manners of deaths, which end up being buried, in an improper unceremonious mass grave disposal [9-11]. Improper unceremonious mass grave disposal entails: excavation of mass graves of more than 6 feet deep, mass grave of unclaimed corpses labeled with strapping on the frontal head, and not in earmarked graveyards with the sampling frames from the mortuaries. However, the main mortality data attributed to unclaimed corpses from the scattered cohorts of population health in Kenya like western Kenya, is not well acknowledged to enable other scholars to figure on it for further research. Thus, the timely need to adventure, on the roles of various health system factors in providing forensic vital statistics, on mortality of unclaimed corpses in western Kenya. Also, despite the Population health census of 2019, in western Kenya being the second largest population after central Kenya [12]. Similarly, there are no holistic and comprehensive studies, which have been done to establish, how well mortuary/ forensic service providers have been recruited and distributed in the study region. Based, on their professionalism in forensic services, empowerment, for sustainable quality medical legal procedures and health laws, to mediate for decreasing improper unceremonious, mass grave disposal of unclaimed corpses by public mortuaries in western Kenya [13,14].

Furthermore, baseline survey, expert observational and need assessments, done in study region, using strength, weakness, opportunities, and treats (SWOT), analysis, and rapid desk review information demonstrate that, the study region, is stagnant being affected by perpetual, accumulation, and congestion of unclaimed corpses in public mortuaries [15], endure to realize an increase of inadequate hygiene and sanitation uptake. Due to overwhelming increase of the unclaimed corpses. Stored while piling on one another without proper embalment and disinfections interventions being put in place to mitigate, inhibition of admissible evidence during autopsy [16]. The accruing, congestion in cold rooms is attributed to inadequate cold storage facilities to accommodate the increasing

fetus, juvenile and adult unclaimed corpses before expiry of 90 days of cold storage and “cold hit” to enable NOK to search the deceased or missing dead persons, on the uploaded Interpol yellow notices, forensic identification, and DNA comparisons, for future dignified disposal of previously unclaimed corpses [10,13].

The health systems factors are cradle for quality mortuary/ forensic service, management in public health, and integration of the core disciplines of forensic services such as, forensic fingerprint identification and tracking of unclaimed persons NOK. Forensic pathology, forensic anthropology, forensic odontology, and forensic laboratory medicine. Forensic entomology, forensic radiology, Photography, Molecular biology, and Mortuary science. At facility level, health system factors application, may include embalment machines and method, regular stock replenishment or essential reagents and disinfectants, serviceable refrigeration of cold rooms [17,18]. Recruitment of quality human resources from medical laboratory science. specialized in Histopathology and mortuary science. Besides accessible continuous medical education training on infection prevention control among the mortuary service providers. Accessibility of the revised, forensic standard operating procedure SOPs, to enable sustainable infection prevention controls of occupational health risks, attributed with the delayed mass grave disposal of unclaimed corpses, by public mortuaries [19]. However, the implementation of health system factors in western Kenya, remains insufficiently exploited, and undocumented, by the ministry of health and internal security.

The global investigations, on KAP of mortuary service providers by [20]. Established that service provision on unclaimed corpses, by mortuary/ forensic service providers, is determined by quality uptake of specific functions of human personality, and unconscious ego defense mechanism, as directed by specific capacity building for individual achieved KAP on hazards, infection prevention control, medico legal procedures and health laws uptake. Besides their inner most willness to provide sustainable forensic service to population health efficiently [21]. However, documentation in western Kenya remains distorted. Thus, the timely need to discover how, medico legal procedures, Health laws health system factors and knowledge, attitude, and practice of mortuary/ forensic service providers, influence improper unceremonious mass grave disposal of unclaimed corpses in cemeteries, by the public mortuaries in western Kenya, as an infringement of human Bill of right to life, as per 2010 constitution Chapter 4-part 2 clause 26, section 1 and 2.

Material And Methods

Medico Legal Procedures and Health Laws Attributed to Unceremonious Mass Grave Disposal of Unclaimed Corpses in western Kenya

Medico legal procedures, attributed to improper, unceremonious mass grave disposal of unclaimed corpses, by public mortuaries, require synergistic partnership, of the police services and other forensic service providers [13,22]. Partnership of purposive clusters of mortuary/ forensic service providers, to search and iden-

tify unclaimed corpses, using NOK and uploaded Interpol yellow notices are key mainstays, to enable previously unclaimed corpses, to be disposed in dignified manner by NOK, as per criminal penal code CAP 75, and birth and death registration Act, CAP 149. Forensic Identification entails, police services, using secured networks 1-24/7 and police signal 7 and 8 to search for NOK, mediate for fingerprint abstractions, and DNA comparisons [23]. Police services and other investigation agencies such as, the red cross and Salvation army, are empowered and authorized, to have access to forensic Databases/ CODIS at facility level being maintained by specific forensic, County departments to extract appropriate, admissible evidence required [24], for forensic search and identification on deceased origin and NOK, for DNA appraisals. Essential early capturing, of the vital custody evidence, with basic parameters of unclaimed corpse, provide vital future data in latent print abstractions and tracking in Biometric and Interpol yellow notices to population health. These parameters enable public facilities, and coroners to decrease unceremonious mass grave disposal of unclaimed corpses in public cemeteries.

Fingerprint and DNA appraisals, form a benchmark of forensic identification of the previously unclaimed corpses, to allow dignified disposal to NOK for religious and cultural rites services. Forensic identification, contain three steps specifically, enrollment, searching and verification. Enrollment is capturing fingerprint image using a sensor [25]. Verification is corresponding fingerprints for correlation studies in minutiae-based matching or ridge minutiae-based algorithms [26,27]. Fingerprint records, contain impressions from pads on the last joint of fingers and thumbs. Human fingerprints are detailed, nearly in unique manner, even identical twins never look identical fingerprints [28]. Difficult to alter. Fingerprints are durable, over the life of an individual. Make them suitable, as long-term transcription markers of human identity and source of medico legal procedures, are well preserved in the cold storage during the “cold hit”. Latent prints are used by crime police to identify individuals who wished to conceal identity. Thus, accessible to identity, as aftermath of a natural disaster or crime. However, no studies have been carried out establish, how forensic latent fingerprint search and forensic identification, have influenced the decreased, improper unceremonious mass grave disposal of unclaimed corpses, by public mortuaries in western Kenya, since the colonial era. Majority of mortuary service providers have not been empowered to mediate fingerprint abstraction, identification and tracking from AFSI independently. Hence sincere, need to establish the level of forensic empowerments, as health system factors of quality forensic service provision.

Inquiry police service, often write up inquest forms, transport unclaimed corpses in public mortuaries, to wait for subsequent medico legal procedures, and postmortem, as per birth and death registration Act CAP 149, the coroner Act 2017, section 24-25, and penal code CAP 75 section 385-388. For the reason that, scattered purposive clusters of mortuary service/forensic providers in western Kenya, like the inadequate integration of core disciplines of fo-

rensic science into forensic department remain unstated. Likewise, deficiency of Interpol yellow notice uploaded online, to enable next of kin access photograph of unclaimed corpses or missing persons, remains big challenge, right from the colonial era. Thus, the timely need, to integrate core discipline of forensic science in order to improve, justice, accountability and sustainability of forensic identification and tracking of unclaimed corpses, before uploaded to Interpol view yellow notices for public [27]. The perpetual, inadequate uptake of forensic professionalism right from the diagnostic triangle, by police services, at crime scene detectors in Kenya, have adversely impacted, on the collection of admissible evidence, at the site of death, before unclaimed corpses are transferred to the public mortuaries for cold storage and "cold hit". Public mortuaries, need to upload and link the data of unclaimed corpses into national databases / CODIS integrated, in the department of forensic science, utilizing Interpol yellow view notices to NOK and population health to enable accessible forensic identification and DNA appraisals.

The process of collecting admissible evidence, at secured diagnostic triangle, is based on position of dead body in presence of prime witness, and physical state of death scene to establish manner of death, such as, suicide, homicide, natural, or road traffic accidents, coroner Act 2017, section 29 [29]. However, western Kenya, has not presented, valued scientific data on the accessible admissible evidence, to build cases for possible significant of medico legal frameworks, utilized to acknowledge, or rule out manner of death, established at the diagnostic triangle. And over 90% of unclaimed corpses, are hardly ever identified, by inquest police services, as per the Kenyan Penal code CAP 75. Consequently, resulting to public health officers and resident magistrates, to apply health laws governing medico legal procedure to mediate primary prevention, and enhance justice and accountability of dead, by issue of the affidavits and court orders [30]. Death examination through dissection, requires an integrated sector wide approach, SWAPs, of active purposive clusters of forensic service providers, to mediate regular follow up, actions of reviewing SOPs of forensic frame works, hospital mortuary, using appropriate technology, to provide intermediate cause and nature of death, as per birth and registration Act CAP 149.

Total letdown of police services to implement quality, medico legal procedures, automatically, advocates for the resident magistrates and public health officers to apply, the health laws, that govern the medico legal frame works, to sustain primary prevention, better than cure, in the health population. Health laws are implemented in the aftermath of no uptake of medico legal steps after the 90 days of cold room storage and "cold hit" they involve: Public Health Act Cap 242, section 35-42. Provides reports and control of epidemics by quarantine and isolation. Isolation clauses, allow mortuary service providers to isolate unclaimed bodies from clinical dead cases. Section 144-148, provide procedures for exhumation and disposal unclaimed bodies from public mortuaries, to improve hygiene and sanitation of the population health. Local Government Act, Cap 265, section 201, allows local authority to regulate and formulate by-laws on mass disposal of unclaimed bodies. Health

Act 2017 section 80 allows one to consent on which pathologist to perform autopsy, to ascertain intermediate cause and nature of death, as per CAP 149 of births and death registration Act. However, the expert forensic desk evaluation, and observation studies on the uptake of medico-legal procedures, and health laws in western Kenya, remains unclear and inadequate for public consumption, to describe its effect on improper unceremonious mass grave disposal of unclaimed corpses, by the public mortuaries.

Trends of Uptake in Medico Legal Procedures and Low Levels of Health Laws Uptakes to Decreased Unceremonious Mass Grave Disposal by Public mortuaries

Establishing forensic Identity, search and tracking of unclaimed corpses in forensic medicine, is affected by various active specific purposive cluster mortuary/forensic service providers [25]. Inadequate uptake of medico legal procedures is attributed to inadequate accessible of enough funds, to facilitate forensic services, such as latent print identification, search of NOK to provide DNA appraisals. Using the secured networks of 1-24/7, police signal 7, 8, and online, uploaded Interpol yellow notices. And matching the fingerprint abstractions, with the National database /CODIS [27]. Collection of blood samples, and other biological samples from next of kin or close family members, are often rudimentary requirement for forensic DNA appraisal, with the national database/ CODIS [29]. However, western Kenya has inadequate and tilted forensic Database/CODIS, linked between national and county counties, to influence NOK access, track unclaimed corpses of fetus, juvenile and adult cohorts effectively and efficiently.

Also tilted Interpol view notices uploaded, to the population health for accessible search and forensic identification, remain unclear, to decrease improper unceremonious mass grave disposal of unclaimed corpses. Partial political will from National government. Low commitment from purposive clusters mortuary/ forensic service providers to decrease the unceremonious mass grave disposal of unclaimed corpses. Also remain a big challenge to be contented, by the population health and NOK. Forensic searching and identification can be enabled by matching information from death (physical features, clothes, artefacts, and personal belongings of dead person), with current information on unclaimed bodies. Direct comparison of dead according to memory of selfie, or available photographs on the Interpol yellow view notices, mediate forensic identification with support from other scientific methods of surface anatomy instruments (face, body mark and denture recognition techniques), which remain indistinguishable in western Kenya, since the colonial era.

Roles of Secured Network 1-24/7 Police Service Signal 7, 8 and Interpol Yellow Views Notices to Search for NOK and DNA comparisons

Police service are the chief mediators of quality enactment of medico legal procedures and uploading of the photos of unclaimed corpses or missing juvenile cohorts, in the online digital platforms.

Secured in the department of forensic department, to enable population health and NOK, search and identify the deceased or missing juvenile unclaimed corpses and ease forensic services in society. Letdown of the police services, to implement the standard medico legal frame works, have amounted to both resident magistrates and public health officers to improperly, unceremonious mass grave disposal of, most unclaimed corpses into more than 6 feet deep excavated graveyards, without clear earmarks for future exhumation. Besides inadequate use of aluminum tags label on the appendages. Utilization of 1-24/7, secured networks, signal 7, 8 and Interpol yellow view notices, to enable accessible search of NOK, forensic identification, and DNA appraisals, as per CAP 75 of penal code of Kenya. Police service, provide secured admissible evidence right from the diagnostic triangle, they note clearly, on when and how dead, is positioned at the scene and secure data, from the primary witness. Unauthorized persons are never allowed to step near the diagnostic triangle. Since, they may contaminate the hidden evidence. Hence the crime scene is often secured with tape. Detective police services, forensic scientists at crime scene, prepare selective photography to enable construction of admissible evidence, with help of primary witness.

Similarly, selfie photographs of surface anatomy: Tattoo, Birthmark, other deformity, or crucial features. Which can help in forensic identification by NOK / family members, are uploaded, to Interpol yellow view notices internet, for population health to access readily. At the diagnostic triangle, the entire dead body, is examined, searched, and searched to write valid inquest files, as per Criminal penal code Cap 75 and coroner Act 2017 section 24-25. Majority of the unclaimed corpses are attributed to various manners of death, such as traffic road accidents injuries, murder, suicide, abandonments in public bushes or forest, shooting, and brought in dead. Mortality of manners of death, are maintained in detail custody data. Clothes on "cold hit" searched to uncover and recover valuable items such as national identity card. Mobile phones or diary to assist in forensic search, and tracing of family or the NOK. However, the uptake of medico legal procedure and health laws, to decrease improper, unceremonious mass grave disposal of unclaimed corpses. Using secured networks of 1-24/7, police signal 7, 8, and Interpol yellow notices, in western Kenya remain unclear and undocumented.

Primary Witness in Diagnostics Triangle to Support the Manner of Death

Diagnostic triangle, consist of prime witness, dead and the scene in relation to manner of death, position of dead after death, as per descriptions of primary witness, position, site and scene of dead, in relation to forensic evidences, of that point in time, to the NOK, or family members on demographic information and surface anatomy: age, color, gender, and height, birthmark or injury mark, tattoo, racial features, cut/burn mark, broken teeth, hair dyed/natural, clothing, type of footwear, watch, glasses, jewelries (Hearing aids,), key/purse/wallet/ticket, mobile, bank card, driving license, passport, respectively of unclaimed bodies [31]. Then, letdown of

enough evidence and data submission, by the police services to safeguard the crime of scene in western Kenya, remain unestablished by the scholarly health population.

Special effects of KAP to Mortuary / Forensic Service Providers, on Occupational Health Hazards, infectious risks, Medico legal procedures and Health laws on Early Decrease of Unceremonious Mass Grave Disposal

Knowledge, attitude, and practices on infection prevention control measures, form the benchmark for the health Nation. And safe community livelihoods to influence quality uptake of medico legal, with lower uptake of health laws, in public facility mortuaries to enhance family disposal of the previously unclaimed corpses. Since it restricts, the spread of epidemics, during and after mass grave disposal. And encourage decrease in improper mass grave disposal [32]. KAP of mortuary/forensic service providers, on hygiene and sanitation, at workplace decrease chances to spread disseminated infection, or carry out cross infections [33-35]. Globally 3 5 million health workers, have exposure to occupational blood-borne pathogens. Of which each year, 2 million are attributed to hepatitis B virus (HBV). 0.9 Million to hepatitis C virus (HCV), [36] 170,000 are HIV, of which mortuary/ forensic service providers are at high risk of acquiring transmission from occupational exposure to mortuary infectious infection. Attributed to improper unceremonious, mass grave disposal unclaimed corpses. Inadequate KAP of mortuary/forensic service providers, on the uptake of infection prevention control measures. Have negatively impacted on both population health and the environment health, as evidenced in among few diseased morticians with Tuberculosis and fungi disease. Associated with, deprived infection prevention control measures, on the clinical cases. And not from the previously unclaimed corpses [37,38].

Study in Nigeria established the inadequate level of skilled, KAP on infection prevention control measures and application of medico legal frame works, among many mortuary/forensic service providers, have given rise to the increased execution of the health laws, governing medico legal procedures, as a primary prevention, to further exposure to the occupational health hazards and epidemic risks in the health population. Hence poor infection prevention control and safety measures and increased improper unceremonious mass grave disposal, among the entire population health. The study, also established that mortuary/forensic service providers, rarely adhered to quality infection prevention control standards. And proper unceremonious mass grave that entails, mass grave disposal of earmarked graveyards, in less than 6 feet deep and all unclaimed corpses are tagged with aluminum metals, to enable easy accessibility during exhumation. Due to future demands from the NOK [39,40]. Nevertheless, currently there are no quality studies published scholarly, to demonstrate in Kenya, how Knowledge, attitude practices of forensic and mortuary service providers influence control occupational health hazards, epidemic risks, uptake of medico legal procedures, health laws and how health system factors to influence a decreasing, unceremonious mass grave disposal of unclaimed corpses for sustainable safe community livelihoods.

Conceptual Statement

Though, mortuary/ forensic service providers in Kenya, may detect the increasing improper, unceremonious mass grave disposal of unclaimed corpses attributed: Regret from, the Police service, due to their letdown to promptly, implement standard medico legal frame works. On the early latent fingerprints abstraction /DNA appraisals, uploading Interpol yellow view notices of photos of deceased or missing juvenile cohorts, on the active online digital platforms, at central forensic science department. To enable population health and NOK search and identify missing juvenile or unclaimed corpses as per penal code CAP 75 of Kenya. Which remain indistinguishable in western Kenya. Determination of both, Resident magistrates and public health officers, to contrivance Health laws, governing medico legal procedures, before expiry of 90 days of cold room storage and "cold hit" may be a mitigation for primary prevention. But then again precursor, for other health challenge, on social cognitive and psychosocial of the health population are vital. However, there is need also to exploit, and ascertain, how KAP of mortuary/ forensic service providers. May affect improper unceremonious mass grave disposal of unclaimed corpses, by public mortuaries in western Kenya, as illustrated in conceptual frameworks in Figure 1 below [41].

Methods and Methodology

Study Area

Western Kenya (Appendix 1) borders the Republic of Uganda to the west, and Rift Valley to the north with its highest point being Mt. Elgon and lowest being Kisumu. The Region covers an area of 25,303.3 km² with an estimated population of 11,488,949 persons [42].

Demographic Information of the Study Area

The population density is approximately 454/km². The life expectancy of the study area is 64 years, for males and 68years for females. Literacy rate in the study area stands at 73% for females and 70% males who attained primary school level of education and 19% females, and 13 % men have attained secondary level education. The study area has over 490 public health facilities ranging from tiers 2 which are dispensaries to level 6 being referral hospitals.

Study Designs

Basically, descriptive cross sectional and cohort studies on primary and secondary study populations respectively.

Study Population

The primary study population were mainly purposive clusters of mortuary service/ forensic providers: Morticians, inquest police service of crime, pathologists, Public Health Officers, close family friends, Forensic scientist/ technologist, embalmers Police Officers and Health Administrators. The secondary study population were desk review of the past 5 years' records, on occupational hazards, infectious epidemics, all unclaimed corpses admitted in public mortuaries namely law neglected fetus, juvenile, and adult male and females, using the police case mortuary registers beginning from January 2017 to December 2021. Secondary study population vari-

able included age by gender, accumulative number of unclaimed corpses, searched, traced using fingerprints/ DNA appraisals, autopsy done number issued with death certificates per CAP 149 of birth and Death Registration Act. Total number of unclaimed corpses of which court orders were processed and issued, to enable mass grave disposal in public cemeteries, as per local authority Act Cap 265 section 201. Also, fetus and juvenile unclaimed corpses acknowledged in the public mortuaries, in the past 5 years, were reviewed retrospective, to determine the general impact of unceremonious mass grave disposal public mortuaries in relation to NOK torture, and deceased victim torture. Since they deserved, due respect and representative of NOK at the time of disposal. Justice and accountability of unclaimed corpses were mediated by PHOs' writing affidavits to resident magistrates, who provided Court orders in blueprints, as per Human Anatomy Act Cap 249 on consent, and Human Tissue Act CAP 252, on utilization for tissue therapy and cadavers dissection, as distinct tools for medical education. Also, the law neglected cohort of fetus and juvenile was exploited, to ascertain their attributed manner, cause, and nature of their death, at that point in time of the study period.

Inclusion Criteria for Target Population

Purposive clusters of mortuary/forensic service providers: (Morticians, forensic technologists/ embalmers, Pathologists, Public Health Officers, Forensic Police Officers and Health Administrators), who have worked in a specific public mortuary for a period more than six months, are in sound physical and mental condition and sign consent to allow, for participation in the study and to provide their past and present medical history. Retrospective desk review records, of the unclaimed corpses of law neglected cohorts; fetus and juvenile, adults by gender were collected for the last 5 years, using retrospective desk review form. Primary study population, mortuary/ forensic service providers. who had worked in that specific mortuary for at least one year offering forensic services were included in the target study population. Secondary study population, included; the desk review of the past 5 years records on, fetus and juvenile, and adults by gender of the unclaimed or missing dead persons, acknowledged in public mortuary by the police service with specific manner variable of: road traffic accidents, mob justice, murder, drowning in water, induced abortion, and abandonment in public mortuaries or bushes for case of juvenile unclaimed corpses, as the key target population, to measure, the standard medico legal procedure to be utilized rather than brought in death BID, shooting, suicide and homicides manners attributed with various claims from the next of kin and community households.

Exclusion Criteria

Purposive cluster mortuary/ forensic service providers, who are physical and mentally incapacitated at the time of the study, were excluded in the study example, 24/7 drunkard mortician were not included in the study. Secondary study population, data on unclaimed corpses suspected diagnosed to be natural types of death, attributed with in accompany of NOK or good Samaritans such as: brought in dead, (BID), suicide, and homicide were not included in

the target study population though were captured in, as the main study population. Mortuary/ forensic service providers, who have worked in that specific mortuary for less than six months, or those NOT willing to disclose their medical history or very new with knowledge and skills of medico legal and health laws frameworks were excluded. Claimed fetus and juvenile admitted in public mortuaries during that specific period of study were not included in the study also. PHOs currently dealing with sanitation and vaccine in the facility or recently recruited morticians, were also excluded in the study.

Sample Size Determination

Sample size was determined by using, (Woodward, 1992: Cochran 1963:75). Infinite/ unknown sample. Then adjusted by finite/ small population correction formula, [43] to get correct study sample size because the population of mortuary service providers is less than 10,000 in the 20 public health facilities in western Kenya. The smaller or finite sample size, was therefore calculated wood ward and Cochran finite formula, as shown below

$$n_0 = \frac{z^2 pq}{e^2}$$

Where n_0 = target population with greater than 10,000 forensic service providers

Z = degree of confidence Interval is given by 95%, CI = (1.96)

p = Proportion of population with desired characteristic (0.50)

q = Proportion of population without desired characteristic (05)

d = Degree of precision; was taken to be 10%. Since the proportion of population health with the characteristic is not known, then 50% will be used (0.05)

$$n_0 = \frac{(1.96)^2 (0.5)(0.5)}{(0.5)^2} \frac{0.9604}{0.0025} \frac{9604}{25}$$

$$n_0 = 384$$

Adjustment of sample size, was done using Finite / known adjustment formula on study population correction formula (Kandethody et al, 2012; Cochran 163:75), because estimated study sample from 20 facilities in western Kenya is less than 10,000 mortuary/ forensic service providers,

(Only 600 estimated respondents were used).

Hence corrected sample size:

$$N = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where

n= desired sample size of respondents was less than 10,000.

no= desired sample size of respondents was more than 10,000

N = total estimated study / target population size (600)

Hence:

$$nf = \frac{384[\text{valid sample if study population is over 10,000}]}{1 + \frac{\{384\}}{600[\text{Estimated target population}]}}$$

Overall sample size, 235 mortuary service providers. Plus 10% non-response participants. (235+24) = 259, participants. However, during the desk review census, on the valid functional purposive forensic and mortuary service providers counted, to be viable in service in 2021 were only 253. Hence all the 253 mortuary/ forensic service providers in the region surveyed and interviewed. Then, were earmarked as valid and reliable sample size from their specific registers, as sampling frames of the target population for study, as distributed in the (table b in Appendix II).

Logistics and Ethical Consideration

Research and ethical approval were received and approved by the Masinde Muliro University of Science and Technology, School of Graduate Studies (SGS), (Appendix III), and Ethical Review Committee (MMUSTERC) approval numbers are: MMU/COR 403012Vol 6 and MMUST/IERC/OO9/2022, (Appendix IV). Research permission was obtained from NACOSTI, License No: NACOSTI/P/22/14942 (Appendix V). The Consents were sought, from all respondents (Appendix VI) before questionnaires were administered. Information obtained from respondents, were treated with confidentiality (autonomy), and privacy of highest order at all stages of the research, (data collection, data analysis, and reporting, etc.). Retrospective desk review form was mainly handled by principal researcher, (Appendix VII). No names or identifiers of study subjects on medical records were reviewed to the public. Unique codes were used. The study was flexible to allow any respondent to withdraw any time. The interviews were based on voluntary participation and consenting. Only respondents who were consulted and were recruited, the respondents were not paid or compensated for their participation in the study.

Results Findings and Discussions

Response Rate

Most of 20 facility mortuaries, for study or target population were accessed during the study period. A total of 20 facilities mortuaries and 63 target population of mortuary/ forensic service providers were involved in the study with 1 (5%) being level 6 facility mortuary, 3 (15%), level 5 facility and 16 (80%), were mainly tier 4 facility mortuaries. Most of the facilities surveyed and interviewed 16 (80%), were in the rural setting while the level 6 and 5 facilities were geographically located in urban settings as demonstrated (Appendix VIII a & b). From the 253 mortuary/forensic service providers, 63 met the inclusion and exclusion criteria and responded to the survey questionnaire out of the sample of n=253. The resulting response rate was 96.1 %. For every facility mortuary and mor-

tuary/ forensic service providers approached and gave consent for survey, interview and retrospective desk review of the past 5 years unclaimed corpses admitted in the public mortuary by police services until the sample size was achieved for secondary population. Cluster purposive and active census using the sampling frame of the mortuary staff registers for Primary study population.

Demographic Characteristics of Primary Study Population (Mortuary/forensic Service Providers)

Expert observation study revealed that, out of 253 sample size of study population suggested, only 63 mortuary/forensic service providers met inclusion criteria as primary target population, were surveyed, majority 48 (76.2 %), were male and 15 (23.8%) female

"Most public mortuaries in Kenya, employ their morticians on contract basis rather than permanent job basis and this contract issues surely are really hurting our heart, demotivate and make us jobless anytime"; FGD discussion and triangulations with morticians in Kakamega and Kisumu County facility mortuaries on 14.03.2022 and 15.03.2022.

Majority of mortuary /forensic service providers 48 (71.6%) were married, 14, (20.9%) were single (1.5%) were divorced. Their religious of worships was tabulated as in (Appendix VIII, b). Religion, Public health officers, Police services and Residence magistrates remained basic health determinants of executing majority of occupational health hazards, infectious epidemics, medico legal and Health laws, such as affidavit writing, autopsy dissections and embalming, Islam region belief that, if you dissect a body of Muslim, it will not go to heaven. So, they usually go for affidavits in courts for justice accountability before the resident magistrate, to evade dissection as per their religious rites. Therefore, Doctors/ pathologists wrote death certificates, as per CAP 149 of birth and death registration Act, without ascertaining intermediate cause and nature of death, via autopsy dissection to most of Muslims. Due to their Islamic faith and cultural rites.

Distribution of Secondary Study Population (Unclaimed Corpses) by Gender

The study opined that, most public mortuary facilities in west-

"Hapa Kitale Baro, karibu miaka 8 hivi nikifanya kazi, Sijawaiona Police Ikijukiwa fingerprints kwa mati, lakini hawa wanaleta kwa mortuary wakisemani unknown kila week mwili moja ama mbili na sana,sana ni wanaume "In Kitale , Barasa, for almost 8 years of my job, I have never seen a Police service carry out finger print abstractions on unclaimed corpses that they often admitted, they often admit unclaimed corpses once or twice per week. Mostly are unknown males. FGD discussion held in Kitale Tier 4 facility on 17/3/2022.

The survey further exploits that, out of 3,899 acknowledged unclaimed corpses, 1608, (41%) were of the Next of Kin (NOK) of which, 1421 (88%) were males, the least admissions, 187 (12%), were Females unclaimed corpses (Appendix IX b). Whose majority cases are never searched/ identified by NOK, once acknowledged in the morgue, as unclaimed corpse. Thus, end up in a mass grave disposal in public cemeteries compare to previously unclaimed male corpses, though are the most acknowledged, as unclaimed corpses, majority are searched and picked by NOK or good Samaritans, to enable subsequent medico legal procedures to be implemented

gender, a social expression of a person's identity in relation to social role and behavior in mortuary service provision with an average mean of 1.24, standard deviation of 0.423 and Pearson Chi square 7.26, 95%CI. Though female gender was few in mortuary/ forensic service provision, majority had achieved higher level of education compared to male counterparts, with standard deviation of 0.556, (Appendix IX a & b). The study established, that about 22 (32.8%) of mortuary /forensic service providers, providing mortuary in public mortuaries, their terms of services are permanent and contract jobs respectively. While 11 (16.4%), are casual, and 8 (11.9%), volunteers, as demonstrated (Appendix VIII a). Signifying sustainability of employment programs on mortuary/forensic service provider is not stable in the study region.

ern Kenya, acknowledged to have an accumulative of three thousand eight hundred and ninety-nine (3, 899) Fetus, juvenile and adult unclaimed corpses with an accumulative standard deviation, of 3.26 of 95% constant interval. Adults unclaimed by gender acknowledged in public mortuaries, for the past 5 years were: 2683 (89%) males and 339 (11%), female unclaimed corpses as confirmed (Figure 1). The law neglected cohort; fetus and Juvenile unclaimed corpses, acknowledged in public mortuaries for the past 5 years, were 878. Whereby, 740 (85%) were fetus, and 138, (15%) were juvenile. The highest mortuary admission by next of kin was observed in Moi Teaching and Referral Hospital (MTRH) with total unclaimed corpses of 728 bodies, highest accumulation of mass grave disposal of adult's corpses, was observed in Kitale mortuary facility, due to its multiethnic populations and with noted least uptake of medico legal procedures, as echoed in FGD discussion below. While the least facility to admit unclaimed corpses was Kimilili, with only 45 admissions. The range of unclaimed corpses acknowledged in the last 5 years, were 432 unclaimed corpses, (2017 -2021).

for future dignified disposal. In total the survey revealed that, only 1608 autopsies were dissected on the previously unclaimed corpses, to notify the government in the 5 years' periods. Meaning that only 1608 Death certificates were notified to the government, as per birth and death registration Act CAP 149. Hence 1608 certificates were issued to NOK to enable ceremonious/dignified disposal for previously unclaimed corpses for the last 5 years as demonstrated, (Appendix X) below. Additionally, forensic investigations revealed that, for the last 5 years, a total of 1420 adult unclaimed corpses, were disposed in public cemeteries through, improper,

unceremonious mass grave disposal, due to the fact that, most unclaimed corpses, had strapping on frontal head, written “unknown Corpse Date of death”, lacked aluminum tags on appendages, and

earmarked shallow mass graveyards of less than 6 feet, excavated to enable future exhumation.

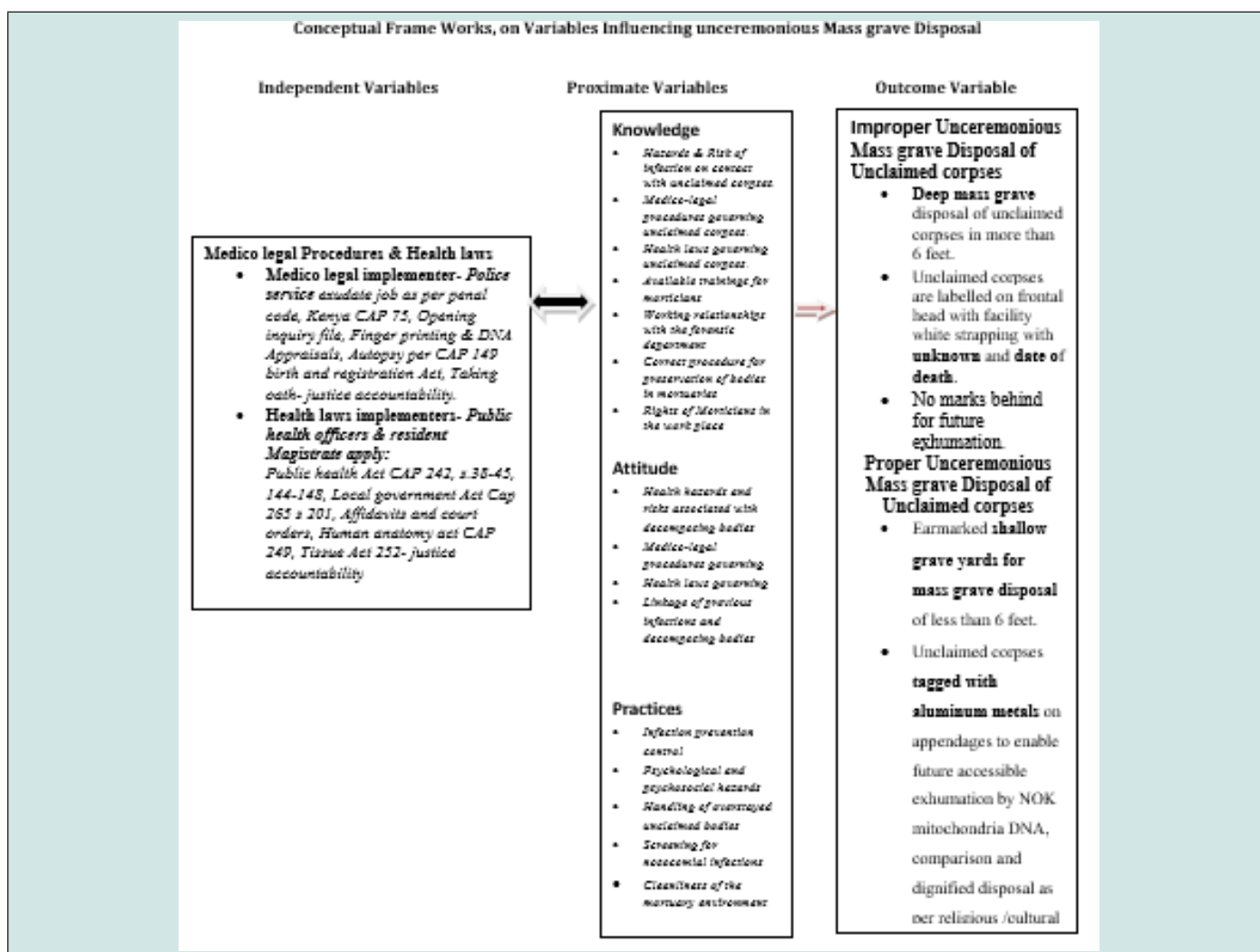


Figure 1: Conceptual frameworks on the Study Topic.

Failure of police service to implement standard medico legal procedures, during the three months of “cold storage and cold hit” of unclaimed corpses, and their photographs being not uploaded into Interpol yellow notices for health population and NOK to search and identify their deceased corpses, from central location in the department of forensic science to ensure autonomy have resulted, public health officers and resident magistrates to apply health laws governing medico legal frame works. Therefore, Court orders were raised by respective facility public health officers (PHOs), through affidavits and notice boards notification for 21 days, (Appendix XI) or media advertisement, as per Penal code CAP 75 of

Kenya, to facilitate, unceremonious mass grave disposal by public mortuaries to cemeteries, as per Local Government Act CAP 265 section 21. The total number of fetus and juvenile mass grave were 878, “the law neglected fetus and juvenile cases” with OD (1.0, 1.0) RR (1.0), signifying that, fetus and juvenile have no value attributions with uptake of medico legal procedures. But they only add quantity of health hazards, infectious risks and magnitude of unceremonious mass disposals categorized in the court orders, as per Human Anatomy Act, CAP 249 on consent and justice accountability by resident Magistrate.

“Identification of unclaimed bodies is the most difficult and resource-intensive task, but the government has not invested in keenly. Forensic specialists may feel comfortable from an ethical perspective working to uphold human rights and investigating violations of international humanitarian law and of human rights, but this should include the family’s right to learn the fate of relatives. The work of forensic specialists is necessary to ensure not only that justice is done but also that the best is done for the families in a shortest time possible, which involves identification of the unclaimed corpses as soon as admitted in public mortuary.” KII briefings in MTRH on 07/03/2022.

The study discoursed that, out of 3899 unclaimed corpses acknowledged in public mortuaries for the past 5 years, 878 (29%), were fetus and juvenile unclaimed corpses. Whose forensic services remain neglected, as per standards medico legal framework of enactment, to enable dignified disposal. Hence main infringement of Bill of rights Chapter 4 and part 2: clause 26 and 27, on rights to life and live from conceptions [44]. In Kenya, the current practice is that fetus and juvenile's fingerprints and biometrics are not readily

available. As such, medico legal practitioners, have marginal options to offer on proper disposal of unclaimed corpses outside the obtained court orders for mass grave disposal. The expert observation demonstrated that, though few female adult unclaimed corpses are admitted in most of tier 4 facilities, their chances of being claimed remained insignificant compared to their male unclaimed counterparts, OD (0.03, 3.3). This was also echoed during FGD discussion in Migori tier 4 facility mortuary.

"Here in Migori, we often admit many males and just few unclaimed female corpses per year. But the worrying trends is that most unclaimed female corpses admitted, are rarely searched or identified by their Next of Kin. therefore, they end up going for mass grave disposal, reason being may NOK think they got remarried or become housemaid in early age before attaining 18 years and remain without National identity card even in their old age. FGDs discussion in Migori on 23/03/2022 and triangulation in Kakamega level 5 on 20/2/2022

Exploitation of the Law Neglected Fetus and Juvenile Unclaimed Corpses in western Kenya

Expert observation discoursed that, out of the 878 juvenile, 740 (85%), cases were attributed to first, fetus cohort which was closely associated with induced abortion, indication of limited, accessibility of reliable health promotions and lost glories of the African traditional reproductive values and uptake, among growing health population. And lack of quality awareness on quality reproductive health services care, accessible to larger community households. Secondly, were 138 cases, (15%) of unclaimed Juvenile cohort, (Appendix XII a & b), reviewed for the past 5 years of unclaimed corpses of under 18 years, attributed to modern neglect of the parental care, and family values in parenting our children in African contexts and values. The fundamental challenge, associated with overcrowdings of unclaimed corpses in public mortuaries, may influence occupational health hazards, such as psychosocial, ergonomic, and chemical hazards.

The population health also belief in myths attributed to overcrowded unclaimed corpses having prospects to spread infectious risks, to mortuary /forensic service providers, such as cholera, tuberculosis and infective hepatitis B and C which the study proved to be insignificant (OD 1.0, 10), with (RR 1.72) on formalin maceration of integument, due to single use of gloves. Forensic, expert observation designated that, proper unceremonious mass grave disposal could be effected using public health Act CAP 242, sections 35 – 48; 144-148), local government Act CAP 265 section 201, to provide proper earmarked cemeteries or graveyards, for shallow mass disposal of unclaimed corpses in less than 6 feet deep, with aluminum tags on their appendages, to enable future accessible valid exhumation, for forensic identification and tracking of unclaimed corpses by NOK. Forensic expert observational study also established that, western Kenya as a region, completely deficiencies, of functional

standard medico legal frame works. To address issues of fetus and juvenile unclaimed corpses admitted in public mortuaries, since the colonial era. Whose better options would be, the Government to construct Combined DNA data base index system, CODIS, collection in western Kenya with collaboration with developed donor countries, right from conception of all reproductive mothers, before birth (antenatal clinics), at post-natal visits to provide DNA data information to Kenya Bureau of statistics, for future accessible and reliable forensic service delivery, to population health.

Uptake of Latent Prints and DNA Appraisals as per the Standard Medico Legal Procedures in western Kenya

The study opined that, the society has a systematic chronic failure, of inquest police services uptake, commencement from diagnostic triangle. Hence resulted concealing of forensic fingerprint identification evidence, by amputating wrist hands of crime offenders before drowning into large rivers (Appendix XII), confirmed evidence in one of tier 4 facility mortuary in western Kenya.

The study also established that, out of 3028 adult unclaimed corpses acknowledged in the past 5 years, only 2 (0.051%) adult unclaimed corpses, underwent the standard medico legal frame works, required to enable dignified family disposal of their previously unclaimed corpses, (Appendix XIV, XV & XVI), from Kisumu outskirts due to arson, with odd risks of (0.007, 3.45), 95% CI, to fetus and juvenile cohorts' mass grave disposal. The study opined that most, 1603 (53%), adult unclaimed corpses were identified by good Samaritans or NOK, and 1420, (46%) adult unclaimed corpses, were unceremoniously mass grave disposal (Appendices XX, XIV, XIII). majority of mass graved corpses from level 5 facilities, 2560, (84%) had limited aluminum tags to enable future exhumation to carry out mitochondria DNA analysis comparisons, with NOK and enable dignified family disposal.

"Here in Kisumu level 5, for the last 5 years we have had only 2 cases of finger print identification and DNA sampling being implemented by police services from Kisumu police station attributed with arson of 2 females burnt beyond recognition., "KII informant interview held in Kisumu, 15/03/2022.

"Doctor. in all public mortuaries where I have worked before, have never seen inquest police officer, take latent prints to initiate medico legal procedure as required per penal code 75 on inquest investigation, unless if the NOK request and initiate the process by giving him transport and small personal fee to enable smooth fingerprint procedures to carry out)" FGD discussions on 09/03/2022 in Homa Bay, tier 4 Facility mortuary.

Besides that, the study established that, despite MTRH being in synergistic partnership with County criminal investigation officer, for prompt latent fingerprint abstractions, to enable search and track for the NOK to carry out DNA appraisals. However, since 2020, their partnership with police service, on forensic identification, has not borne any forensic service fruits to the facility. Because inquest police service, come as per the unit command agreement with their Seniors, to take latent print abstractions, as agreed in the joined meeting. But then, MTRH has never received any positive outcome of traced and found unclaimed corpses. The study established that, out of 1829 autopsies dissected for the past 5 years, on previously unclaimed corpses, over 1590, (90%) dissections were male and only 239 (10%), were female unclaimed corpses, with odd ration of female gender at risk of dissection being insignificant, compared to

male gender OD (7.1, 0.048) CI 95%.

Majority of dissections made, on previously unclaimed corpses in public mortuaries were mainly attributed by several search efforts and identification made by NOK in collaboration with household's good Samaritans. Rather than the police services utilizing secured network, 1-24/7 signal 7 and 8 and digital platforms of Interpol yellow view notices uploaded to restricted population health at central department of forensic science (Appendix XVII). Basically, inquest police service came only to open files for autopsy. Then later, called by respective mortuary superintendents, to close the inquest files to enable PHOs implement public health Act CAP 242 laws and local government authority Act, CAP 265 section 201 to enable unceremonious disposal (Appendix XVIII).

"Here in MTRH we have partnership with inquest police service for latent fingerprint abstractions for now close to 2 years, but there is NO tangible single traced Fingerprints result that we have received, so all unclaimed corpses are kept in special unclaimed container after the expiry of three months' cold room storage. Autopsied carried out in MTRH, are mostly associated with, BID, murder, homicide and known suicide, whom next of kin facilitates opening of inquest file to do autopsy, to enable family disposal rather than go for unceremonious mass grave". KII briefing in MTRH on 07/03/2022.

Frequency distribution of autopsies dissected on previously unclaimed corpses, were attributed to intermediate cause and nature of deaths, that occurred in the scene of next of kin or good Samaritans. Who influenced, social capitals to enable search identification of NOK to mediate DNA comparisons (Appendix XV, XVI & XVII), and autopsy dissections. Henceforth, decrease the application of the health laws governing medico legal procedures by the PHOs and resident magistrates, to effect mass grave disposal by public mortuaries. The pandemic of improper unceremonious mass grave disposal is attributed with deficiency of proper plans by forensic department, to put in place strategies to enable future exhumation, using aluminum tag metals on appendages, organize for shallow mass grave of less than 6 feet deep, with local authorities during excavation of mass graves in cemeteries. Failure to tag unclaimed corpses with the metal is closely attributed with limited uptake of forensic service, by most public mortuaries in western Kenya.

The persisted challenges, obstructs the provision of quality forensic services, information, and data to the respective NOK on manner, cause and nature of death. Due to lack of autopsy dissections on unclaimed corpses. Similarly, to fetus and juvenile unclaimed corpses, whose laws on application of the medico legal frameworks, have been neglected and remained silence, in the country since colonial era. The statistics of unclaimed figures have gradually increased to over 2298 (59%), unclaimed corpses, reviewed for unceremonious mass grave disposal. Exhausting court orders and affidavits, to enable justice and accountability of all unclaimed corpses acknowledged, in public mortuaries for the past 5 years (Appendix 13). The study established that, candid unclaimed corpses acknowledged, to most public mortuaries, were attributed, to fatal road traffic accidents, (RTA), some cut wrist before drowning in water to conceal forensic Identification, (Appendix XIII), or abandonment in public toilets or bushes. The study opined that, the Affidavits and Court orders, (Appendix XVIII, XIX), remains the main Legal binding consents, as per Human Anatomy Act, Cap 249, and Human Tissue Act

CAP 252, to enable utilization of unclaimed corpses. Local government Act CAP 265 section 201 allows county authorities to provide cemeteries for mass disposal.

Uptake of Medico Legal Procedures and Health Laws Attributed to Unceremonious Mass Disposal of Unclaimed Corpses in Kenya

Uptake of medical legal procedures in Kenyan health system postulated in penal code CAP 75, are mainly meditated by inquest Police service. Which begin with opening inquest file at diagnostic triangle (Dead scene and witness), admit the dead in public facility mortuary and initiate finger printing abstractions, DNA appraisals, then upload view Interpol yellow notices to population health to search and contact (NOK), or use the police secured network 1-24/7 signal 7 to pass information to community administration on the location of the deceased, then will get reply via police signal 8, NOK visit the facility mortuary to confirm on their missing dead person, remove DNA sample for appraisal studies, plan for autopsy dissection or affidavits to excepted specific community of the dead, from dissection, as per deceased religious or cultural rites, take vow to nearest resident magistrate, to rename the previously unclaimed body, embalm using modern technology, and pays for mortuary bills to go and dispose their beloved in dignified manner, as per religious cultural and community rites.

However, despite the fact that standard medico legal frameworks, has been highlighted in blueprints, its application for the past 5 years by Police services, attached to public facilities in Kenya, have remained tilted and inadequate. Results from the study demonstrate that, out 3899 unclaimed corpses received in public mortuaries, only 2 (0.051%) unclaimed corpses were forensically identified, as per required standard medico legal frameworks for forensic services, from Kisumu level 5 facility, were disposed in dignified manner, odd ratio of (0.007, 3.450). Hence confirmed high

probability of insignificance uptake of latent print abstractions and DNA appraisals, as the basic medico legal frame works to prevent uptake of the health laws governing medico legal procedures by the public health officers. Prolonged tilted, inadequate uptake of medico legal procedures may be due to due to Deficiency of Morale and Motivation, as per Maslow Law of motivation to mortuary / foren-

sic service providers from Department of Forensic Pathology. However, the uptake health laws by PHOs in public facilities remained significant, P value 0.023, CI 95% CI, significant to sustain health population. The tilted uptake of medico legal service also, came up clear in various series of key informant interview and focus group discussion and their follow up in triangulation sessions.

"Here Kisumu level 5, the inquest police, did fingerprint search and Identification and DNA comparison tests on two suspected females, arson, burnt in one room beyond recognition so it forced police to implement finger and DNA sample. This was the only case whereby all medico legal steps or procedures were implemented to letter by the inquest police. Service for the last many years, that I have worked in this mortuary". KII briefing in Kisumu level 5, Mortuary on. 18/2/2022

"In MTRH we have partnership with inquest police now is 2 years, but NO single traced Fingerprints result has come have come so all unclaimed are in unclaimed container after the expiry of three months Autopsied done here are mainly associated with, BID, murder homicide and known suicide, whom next of kin facilitates opening of inquest file to do autopsy, to enable family disposal rather than mass grave". KII briefing in MTRH on 21/2 /2022.

Roles of Police Services in Utilization of the Secured Networks, 1- 24/7, Police Signal 7, 8 and Interpol yellow notices to Decrease Unceremonious Mass grave Disposal

The study verified that, the application of the secured networks, 1- 24/7 police signals 7 & 8 and the Interpol yellow view notice, on informing NOK, about unclaimed corpses remains inadequate and tilted for past 5 years, as far as forensic science and occupational health risks and hazards are concerned, with only, 2 cases, (0.051 %), out 3028 adult unclaimed corpses. That went through, the required standard medical legal frameworks, as per legal justice framework postulated in criminal penal code CAP 75 of Kenya. The likelihoods, of the population health to receive message on missing beloved ones for past for years by gender, female and male was OD (1.0, 0.97), (RR 0.97.). Establishment of Interpol view yellow notices, remain shadowy in the study region (Appendix XX). Even after the invention of digital platforms and the modern information and communication technology, where majority of population health, currently, relied on mobile communication, good Samaritans, and sometimes utilize "Nyumba Kumi" (ten houses) initiative to search, track and identify NOK of the deceased, to enable community to decrease the unceremonious mass disposal of unclaimed corpses by public mortuaries. Respond to the wishes of the family cultural respect and religious rites.

Discussion

Exploiting Medico Legal Procedures and Health Laws Associated with Unceremonious Mass Grave Disposal of Unclaimed Corpses

Expert s' observational studies in western Kenya, confirmed and describe sincere failure of the police service to apply the secured networks, 1-24 /7 police signal 7, 8 and Interpol yellow notices on forensic identifications, and accessibility, of the NOK, endured inadequate and tilted, as noted with the increased unceremonious mass grave disposal by the public mortuaries. The application, of medico legal procedures, at both national and County

governments, as per standard frame works in CAP 75 of penal Code and forensic service code of contact, in Kenya, remain quite antagonistic to the position of UK parliamentary joint committee on Human rights for deaths in custody by [45]. Which emphasizes on the need of family participation/ NOK for the deceased prerequisites, as mandatory requirement to be involved in the inquest of the unclaimed corpses, essentially to safeguard the legitimate interests of both unclaimed corpses and NOK. The inadequate uptake of 1-24 /7 police signal 7, 8 and the Interpol yellow view notices, to enable, forensic identification and DNA appraisals, misaligned processes of relaying and forensic information to NOK, about unclaimed corpses in public mortuaries at the community households. Is also infringement of missions of medico legal practitioner's bodies Nationality regionally and globally [46]. This also subverts the efforts to prevent and respond to torture and discrimination. Letdown of NOK to be synergistically involved in forensic services, violates the roles of Interpol view yellow notices. That is aimed to alert suspected community households on missing unclaimed adults or beloved juveniles accessible to a secured forensic central point. Thus, the need to upload all unclaimed or missing persons in the search data of secured forensic digital platform by the forensic department in line with police Interpol [47].

Conclusion and Recommendation

Services in the western Kenya, as per their roles and powers postulated in CAP 75 of penal code of Kenya. Equated to the application, of health laws by resident magistrates and public health officers (PHOs), as earmarked with the increased improper unceremonious mass grave disposal of unclaimed corpses in public cemeteries to sustain the motto, "A Health population is A Health Nation". Therefore, timely need to integrate core medico legal disciplines in a sector wide approaches (SWAPs) model, as Department of forensic science under one command management. As the better options to decrease, the persistence improper unceremonious mass disposal of unclaimed corpses by public mortuaries. And enable proper unceremonious mass gave that entail, earmarked graveyards, disposal only of aluminum tagged unclaimed corpses, on appendages,

in shallow mass grave of less than 6 feet that support the demand of exhumation by NOK, to carry out, mitochondria DNA appraisals and subsequent medico legal steps, that advocate for dignified disposal of previously unclaimed corpses.

Critical advocacy for capacity building, to empower and sustain majority of mortuary /forensic service providers, and the society on roles of Interpol yellow notices being installed, accessible and reliable information about missing or unclaimed corpses to health population, to enable NOK view, search and identify their unclaimed or missing persons on the online or internet platforms, at accessible and reliable, department of forensic science. Local Counties in western Kenya to interlink with the uploaded forensic data base services CODIS, for entire unclaimed or missing persons and juvenile cohorts from the National forensic service headquarters. Admission of unclaimed corpses, or missing person should only be completed, once specific Police service on scene of crime download the unclaimed corpses or missing persons into Interpol Yellow views notices. Must be enumerated by MOH and Department of forensic science for all fingerprint abstractions and DNA appraisals done, promptly to sustain the forensic programs. Government of Kenya in collaboration with willing Donors Partners, to initiate DNA data banking biometrics CODIS, to mediate for the law neglected fetus and juvenile unclaimed corpses, as per chapter 4 of Bill of rights to life right from conception.

Recommendation

a) Government of Kenya and western Kenya, to collaborate with willing Donor partners, to provide Grants and waived loans for constructing a world class DNA database banking system. Interlinked with County governments of western Kenya, to mediate for both law neglected fetus and juvenile cohorts, and adult unclaimed corpses with enhanced valid accessible and reliable forensic DNA appraisal services, at county levels, more efficiently, as a long-term, sustainable interventions, for the increasing improper unceremonious mass disposal, and curb both civil and reproductive health criminals in the society using modern forensic gargets. Thus develop a society, with high standard of African acceptable morals on psychosocial virtues and rites.

b) Government of Kenya and western Kenya, to collaborate with willing Donor partners, to provide Grants and waived loans for constructing a world class DNA database banking system. Interlinked with County governments of western Kenya, to mediate for both laws neglected fetus and juvenile cohorts, and adult unclaimed corpses with enhanced valid accessible and reliable forensic DNA appraisal services, at county levels, more efficiently, as a long-term, sustainable interventions, for the increasing improper unceremonious mass disposal, and curb both civil and reproductive health criminals in the society using modern forensic gargets. Thus develop a society, with high standard of African acceptable morals on psychosocial virtues and rites.

Further research study, on why it has taken longer period for

the Government of Kenya in collaboration with western Kenya, to establish medico legal procedures governing disposal the unclaimed fetus and juvenile cohorts, as it violates Chapter 4 of Bill right to life and live, right from the conception as per 2010 constitution.

References

1. Cole SA (2004) Grandfathering evidence: Fingerprint admissibility rulings from Jennings to Llera Plaza and back again. *Am Crim L Rev* 41(3): 1189-1276.
2. Apima MB, Kandiri J (2019) The Role of Mobile Phone Tracking Technology in Crime Prevention in Kenya: A Case of Nairobi City Country.
3. Cox JA, Lukande RL, Kateregga A, Mayanja-Kizza H, Manabe YC, et al. (2011). Autopsy acceptance rate and reasons for decline in Mulago Hospital, Kampala, Uganda. *Trop Med Int Health* 16(8): 1015-1018.
4. Silali MB, Odero W, Rogena E (2017) Community Participation Medico-Legal Concepts to Identify Unclaimed or Missing Dead Bodies from Public Mortuaries to Improve Public Health in Western Kenya. *J Health Med Informat* 8: 2.
5. Kindig DA, Asada Y, Booske B (2008) A population health framework for setting national and state health goals. *Jama* 299(17): 2081-2083.
6. Pankaj A, Singh BR (2017) Dealing with unclaimed dead bodies-embrace the challenge. *Int J Community Med Public Health* 4(4): 992.
7. Beavan C (2001) Fingerprints: The Origins of Crime Detection and the Murder Case That Launched Forensic Science. Hyperion Books, USA.
8. Montañez-Hernández JC, Alcalde-Rabanal J, Reyes-Morales H (2020) Socioeconomic factors and inequality in the distribution of physicians and nurses in Mexico. *Rev Saude Publica* 54: 58.
9. Khayesi M, Nafukho FM (2016) Informal Public Transport in Practice: Matatu Entrepreneurship. Routledge, USA.
10. Hess KM, Orthmann CH, Cho HL (2014) Introduction to law enforcement and criminal justice. Cengage Learning, India.
11. Abbas AK, Hefny AF, Abu-Zidan FM (2011) Seatbelts and road traffic collision injuries. *World J Emerg Surg* 6(1): 1-6.
12. Saul J (2013) Collective trauma, collective healing: Promoting community resilience in the aftermath of disaster Vol. 48 Routledge, USA.
13. Silali MB (2017) Factors Hindering Accessibility of Quality Medico-Legal Service in Secured Diagnostic Crime in Western Kenya. *SF J Forensics* 1(1).
14. Franco LM, Bennett S, Kanfer R (2002) Health sector reform and public sector health worker motivation: A conceptual framework. *Soc Sci Med* 54(8): 1255-1266.
15. Kazungu J, Nanyingi M, Katongole SP, Anguyo RD, Wampande LN (2015) The state of mortuary and mortuary services in public health facilities of southwestern Uganda. *Int J Pub Health Res* 3(6): 360-369.
16. Nyaberi JM, Kakai R, Obonyo CO, Othoro D (2014) Perceived occupational risk of infection among hospital mortuary attendants in Nyanza Province, Kenya. *Inq* 58.
17. Fusco FM, Scappaticci L, Schilling S, De Iaco G, Brouqui P, et al. (2016) A 2009 cross-sectional survey of procedures for post-mortem management of highly infectious disease patients in 48 isolation facilities in 16 countries: Data from EuroNHID. *Infection* 44(1): 57-64.
18. Brenner E (2014) Human body preservation—old and new techniques. *J Anat* 224(3): 316-344.
19. Bedoya G, Dolinger A, Rogo K, Mwaura N, Wafula F, et al. (2017) Observations of infection prevention and control practices in primary health care, Kenya. *Bull World Health Organ* 95(7): 503-516.

20. Iliyasu G, Dayyab FM, Habib ZG, Tiamiyu AB, Abubakar S, et al. (2016) Knowledge and practices of infection control among healthcare workers in a Tertiary Referral Center in North-Western Nigeria. *Ann Afr Med* 15(1): 34-40.
21. Abdurraheem IS, Amodu MO, Saka MJ, Bolarinwa OA, Uthman MMB (2012) Knowledge, awareness and compliance with standard precautions among health workers in north eastern Nigeria. *J Community Med Health Edu* 2(3).
22. Percy BR (2005) The contribution of experiential learning theories to the practice of participatory technology development. *Agriculture and Human Values* 22(2): 127-136.
23. Illes M, Wilson P (2020) *The scientific method in forensic science: A Canadian Handbook*, Canada.
24. Faulds H (1905) *Guide to Finger-Print Identification*. [With Plates.] Wood, Mitchell & Company.
25. Kevles DJ (1995) *In the name of eugenics: Genetics and the uses of human heredity* (Issue 95). Harvard University Press, USA.
26. Ashbaugh DR (1999) *Quantitative-qualitative friction ridge analysis: An introduction to basic and advanced ridgeology*. CRC press, USA.
27. Komarinski P (2005) *Automated fingerprint identification systems (AFIS)*. Elsevier.
28. Jeffreys AJ, Wilson V, Thein SL (1985) Hypervariable 'minisatellite' regions in human DNA. *Nature* 314(6006): 67-73.
29. Castro DM, Coyle HM (2013) *Biological Evidence Collection and Forensic Blood Identification*. Forensic Science Department Henry C Lee College of Criminal Justice & Forensic Science, University of New Haven, USA.
30. Shako K, Kalsi M (2019) Forensic observations and recommendations on sexual and gender-based violence in Kenya. *Forensic Sci Int Synerg* 1: 185-203.
31. (2005) *Disposal of dead bodies in emergency conditions*. In *Technical Notes for Emergencies* (Vol 8). World Health Organization (WHO).
32. Amoran OE, Onwube OO (2013) Infection control and practice of standard precautions among healthcare workers in northern Nigeria. *J Glob Infect Dis* 5(4): 156-163.
33. de Goyet C de V (1999) Stop propagating disaster myths. *Prehosp Disaster Med* 14(4): 9-10.
34. Noji EK (2000) The public health consequences of disasters. *Prehosp Disaster Med* 15(4): 21-31.
35. Mara D, Evans B (2018) The sanitation and hygiene targets of the sustainable development goals: Scope and challenges. *J Water Sanit Hyg Dev* 8(1): 1-16.
36. (2017) *Healthier, fairer, safer: The global health journey, 2007-2017*. World Health Organization (WHO).
37. Murrell DF (2011) *Autoimmune Blistering Diseases, Part II, An Issue of Dermatologic Clinics-E-Book*, Elsevier Health Sciences 29(4).
38. Watkins RE, Wynaden D, Hart L, Landsborough I, McGowan S, et al. (2006) Perceptions of infection control practices among health professionals. *Contem Nurse* 22(1): 109-119.
39. Rowe AK, De Savigny D, Lanata CF, Victora CG (2005) How can we achieve and maintain high-quality performance of health workers in low-resource settings? *Lancet* 366(9490): 1026-1035.
40. Marangu EM (2020) Culture and mental health in Kenya. In *The Routledge International Handbook of Race, Culture and Mental Health* pp. 411-421.
41. Dine CJ, McGaghie WC, Bordage G, Shea JA (2015) Problem statement, conceptual framework, and research question. *Academic Medicine* 76(9): 923-924.
42. Macharia PM, Mumo E, Okiro EA (2021) Modelling geographical accessibility to urban centres in Kenya in 2019. *PLoS One* 16(5): e0251624.
43. Kandethody MR, Chris PT (2012) *Mathematics statistics applications on Finite adjustment formular*. Elsevier 187.
44. Mutethia K (2020) *The Constitutional Context of Human Rights Defenders in Kenya under the 2010 Constitution*. SSRN Electronic Journal.
45. Tolley MC (2009) Parliamentary scrutiny of rights in the United Kingdom: Assessing the work of the Joint Committee on Human Rights. *Aust J Political Sci* 44(1): 41-55.
46. Watermeyer B, McKenzie J, Swartz L (2019) *The Palgrave handbook of disability and citizenship in the global south*. Springer, Switzerland.
47. Reedy P (2020) *Interpol review of digital evidence 2016-2019*. *Forensic Sci Int Synerg* 2: 489-520.
48. Published by the National Council for Law Reporting & with the Authority of the Attorney-General (2012) *Kenya laws, Criminal Procedure Code* 75(2): 385-388.



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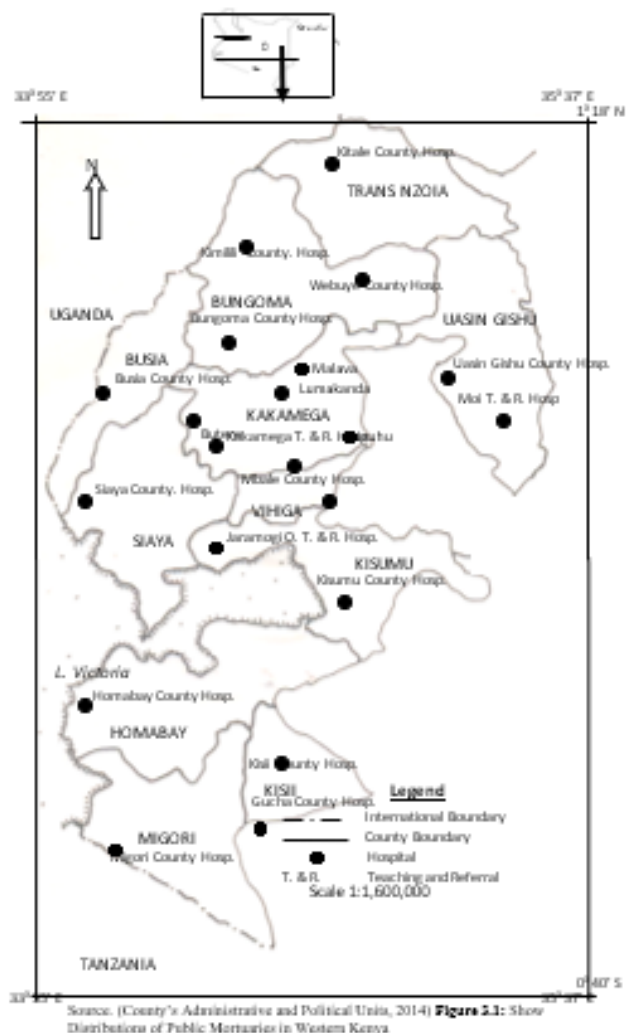
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Appendix

Appendix I: Map of Western Kenya.



Appendix II: a & b

| Purposive Cluster | Study Population / Coroner Service | Job Responsibility | Census in Study Region |
|--|--|------------------------|------------------------|
| Forensic Medicine/pathology | Pathologist | Perform autopsy | 3 |
| Crime Scene investigators | Criminal investigating Police | Police Constable | 20 |
| Public health implementers/Facility administrators | PHOs / Hospital administrators | Legal implementer | 20 |
| Custodians of unclaimed bodies | Morticians | Overall, Body Care | 190 |
| Liaison community households | Next of kin /hospital Admin., Coronary/embalmer office | Parents/guardians | 0 |
| MOH | Hospital Administrators | Document & file bodies | 20 |
| Total Sample Size for Study | | | 253 |

a) Distribution of Primary Study Population (Mortuary/Forensic Service Providers).

| S/N | Facility | Tier/level | Primary Respondents | Other Mortuary / Forensic Service Providers) | Respondents' Baseline Survey in 2021 | Frequency of Disposing unclaimed corpses /per year. |
|-----|--------------|------------|---------------------|--|--------------------------------------|---|
| 1 | Kitale | 4 | 10 | 3 | 12 | Half |
| 2 | MTRH | 6 | 18 | 3 | 21 | Quarterly |
| 3 | Uasin Gishu | 4 | 10 | 3 | 11 | Half |
| 4 | Kakamega | 5 | 20 | 3 | 22 | Quarterly |
| 5 | Butere | 4 | 6 | 3 | 8 | Half |
| 6 | Iguhu | 4 | 9 | 3 | 11 | Half |
| 7 | Iumakan-da | 4 | 8 | 3 | 12 | Half |
| 8 | Vihiga | 4 | 9 | 3 | 12 | Half |
| 9 | Webuye | 4 | 10 | 3 | 13 | Quarterly |
| 10 | Kimilili | 4 | 6 | 3 | 9 | Half |
| 11 | Bungoma | 4 | 13 | 4 | 17 | Quarterly |
| 12 | Siaya | 4 | 6 | 3 | 9 | Half |
| 13 | Yala | 4 | 5 | 3 | 8 | Half |
| 14 | Kisumu PGH | 6 | 15 | 3 | 17 | Quarterly |
| 15 | Kisumu Dist. | 4 | 6 | 4 | 10 | Quarterly |
| 16 | Homa Bay | 4 | 10 | 3 | 13 | Quarterly |
| 17 | Migori | 4 | 11 | 3 | 14 | Quarterly |
| 18 | Rongo | 4 | 4 | 3 | 7 | Quarterly |
| 19 | Kisii | 5 | 8 | 3 | 11 | Quarterly |
| 20 | Nyamira | 4 | 6 | 4 | 10 | Quarterly |
| | Total | | 190 | 63 | 253 | |

b) Distribution of Study Facilities and Target Population in Study Region

Appendix III: Proposal Approval.


MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

Tel: 056-30870 P.O. Box 190
Fax: 056-30153 Kakamega - 50100
E-mail: director@mmust.ac.ke Kenya
Website: www.mmust.ac.ke

Directorate of Postgraduate Studies

Ref: MMU/COR: 509099 7th February 2022

Maurice Barasa Silali,
HPE/1101/54997/2020,
P.O. Box 190-50100,
KAKAMEGA.

Dear Mr. Barasa,

RE: APPROVAL OF PROPOSAL

I am pleased to inform you that the Directorate of Postgraduate Studies has considered and approved your Ph.D. Proposal entitled: *"Occupational Health Risks, Medico Legal Procedures and Health Laws Attributed to Unceremonious Mass Grave Disposal of Unclaimed Corpses by Public Mortuaries in Kenya"* and appointed the following as supervisors:

1. Prof. Emily Adhiambo - JKUAT
2. Dr. Maximilla Wanzala - MMUST
3. Dr. Nathan Shaviya - MMUST

You are required to submit through your supervisor(s) progress reports every three months to the Director Postgraduate Studies. Such reports should be copied to the following: Chairman, School of Public Health, Biomedical Sciences and Technology Graduate Studies Committee and Chairman, Public Health Department. Kindly adhere to research ethics consideration in conducting research.

It is the policy and regulations of the University that you observe a deadline of three years from the date of registration to complete your Ph.D. thesis. Do not hesitate to consult this office in case of any problem encountered in the course of your work.

We wish you the best in your research and hope the study will make original contribution to knowledge.

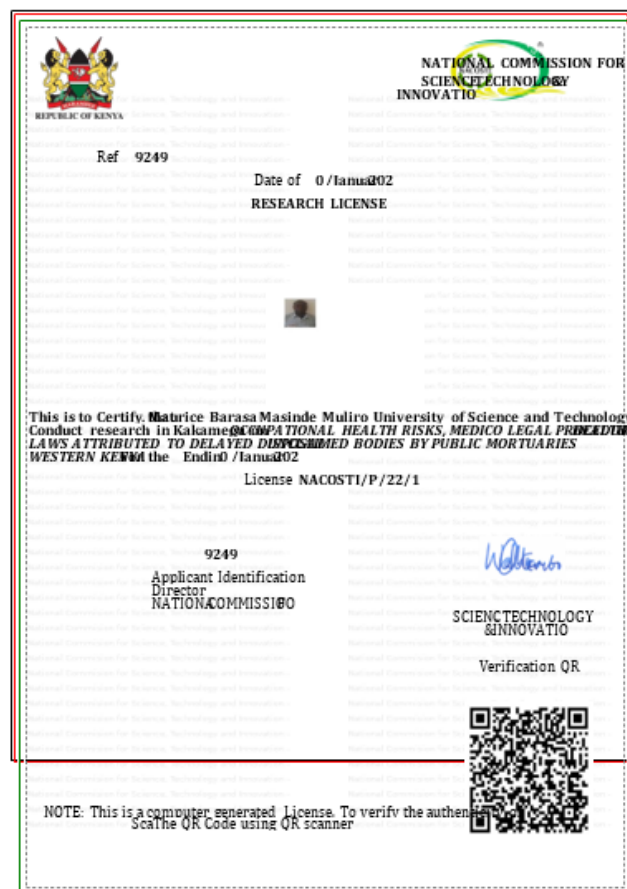
Yours Sincerely,


Prof. Stephen O. Odebero, PhD, FIEEP
DIRECTOR, DIRECTORATE OF POSTGRADUATE STUDIES

Appendix IV: Ethical Approval.



Appendix V: Nacosti Research Permit.



Appendix VI: Informed Consent Form.

INFORMED CONSENT FORM

Greetings, Iam Maurice B Silali, a Student at the Masinde Muliro University of science and Technology, pursuing PhD degree in Public Health (*Epidemiology and Population Health*), now working on my research thesis *'Occupational Health Hazards, Infectious Risks, Medico Legal Procedures and Health Laws Attributed to Unceremonious Mass Grave Disposal of Unclaimed Corpses by Public Mortuaries in Western Kenya.'*

I have been certified by Masinde Muliro University of Science Ethics Review Committee, permitted by NACOST, Chief Government pathologist, and MOHs' of western Kenya facilities to conduct the Study. You as one of my study respondents, wish to seek for your consent to respond to the questionnaire of my survey and KII discussions of my interview, which take around forty-five (45) minutes. Please feel free to answer the questionnaire.

I wish to assure you of confidentiality, of our responses. The information gathered will not be used by any person apart, from the interest of the research thesis in question.

Participant's signature..... Date.....

Researchers signature Date.....

Thank you for participating

Appendix VII: a & b

| Level / Tier of Facility | Frequency | Percent |
|--------------------------|-----------|---------|
| Level 6 | 1 | 5 |
| Level 5 | 3 | 15 |
| Tier 4 | 16 | 80 |
| Total | 20 | 100 |

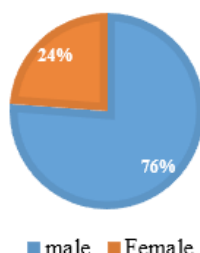
a) Health Facilities' Characteristics in Western Kenya.

| | Gender | Age | Marital status | Level of education | Religion | Terms of Employment |
|--------------------|--------|-------|----------------|--------------------|----------|---------------------|
| Frequency variable | 63 | 63 | 63 | 63 | 63 | 63 |
| Mean | 1.238 | 3 | 1.254 | 2.587 | 1.825 | 2.429 |
| Median | 1 | 3 | 1 | 3 | 2 | 2 |
| Std. Deviation | 0.4293 | 1.016 | 0.4741 | 0.5575 | 0.9595 | 0.9283 |
| Variance | 0.184 | 1.032 | 0.225 | 0.311 | 0.921 | 0.862 |
| Range | 1 | 4 | 2 | 2 | 4 | 3 |

b) Descriptive Statistics of Demographic Variables in Western Kenya.

Appendix VIII: a & b

Distribution of Mortuary/Forensic Service Providers by Gender

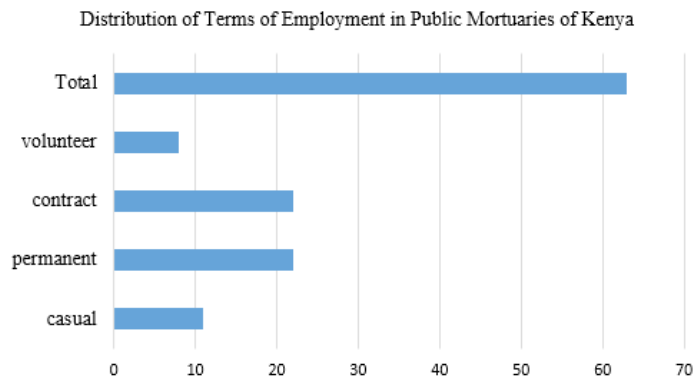


a) Distribution Of Gender Participation from Study Region.

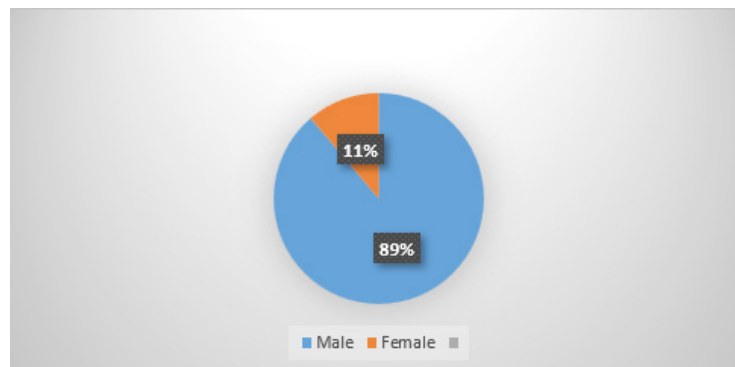
| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------|-----------|---------|---------------|--------------------|
| Catholic | 26 | 38.8 | 41.3 | 41.3 |
| Protestant | 30 | 44.8 | 47.6 | 88.9 |
| Islamic | 6 | 9 | 9.5 | 98.4 |
| Hinduism | 1 | 1.5 | 1.6 | 100 |
| Total | 63 | 94 | 100 | |

b) Distribution of Religious Variables in Western Kenya.

Appendix IX: a & b

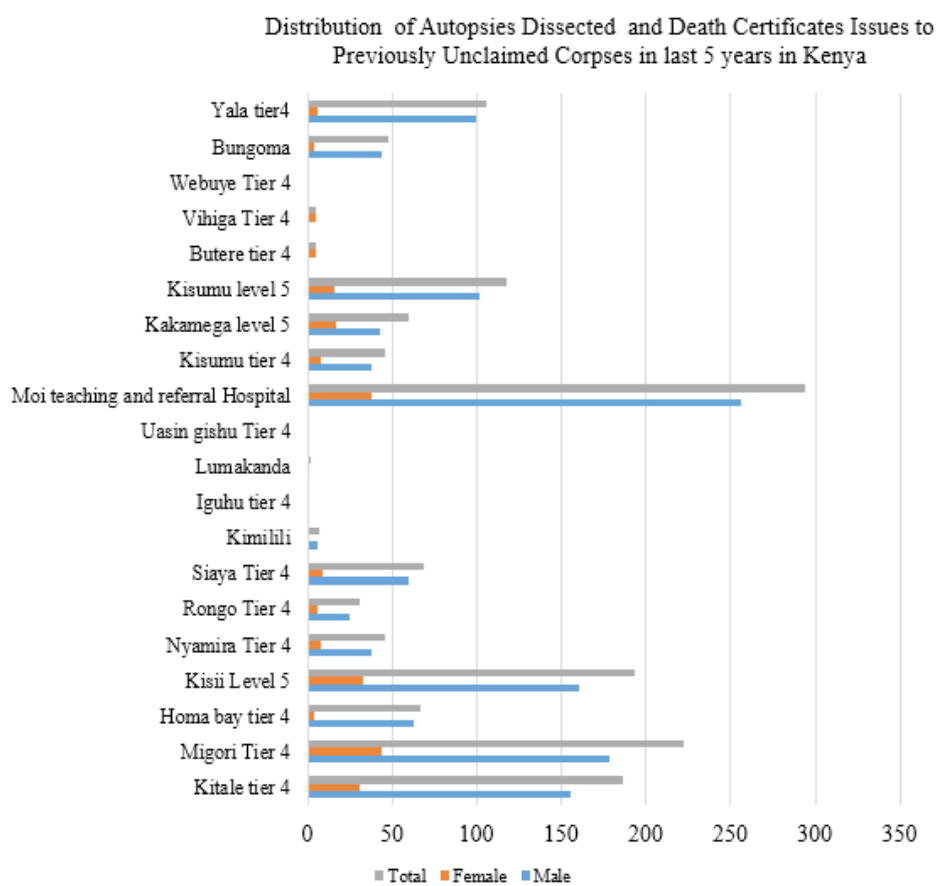


a) Distribution of Terms of Service of Morticians in Public Mortuaries.



b) Describes the Accumulative Adult Unclaimed Corpses Admitted in Public Mortuaries for Last 5 Years, (2017 -2021).

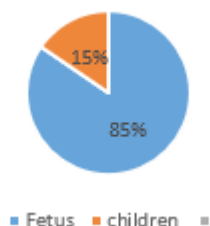
Appendix X: Autopsies Dissected on Previously Unclaimed Corpses in Public Facility Mortuaries by Gender, As Per Births and Deaths Registration Act Cap 149.



Appendix XI: Improper Unceremonious Mass Grave Disposal of Unclaimed Corpses.



Appendix XII: a & b

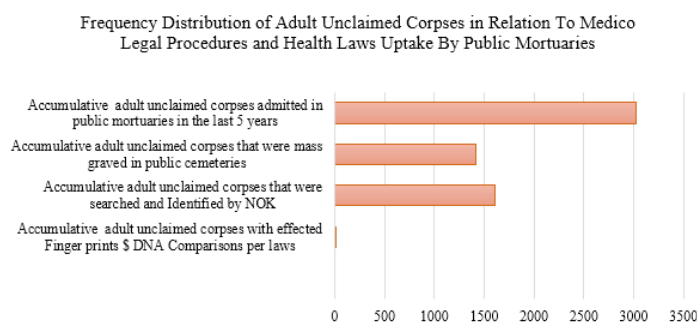


a) Frequency distribution of law neglected fetus and juvenile unclaimed corpses.

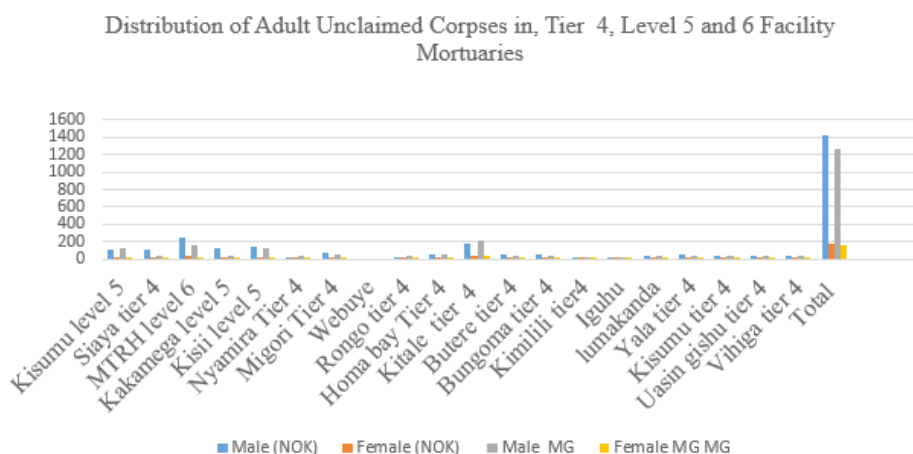
| S/n | Facility | Fetus & Juvenile Cohort | | Adult Male | Adult Female | Total |
|-----|-------------------|-------------------------|----------|------------|--------------|-------|
| | | Fetus | Children | | | |
| 1 | Kisumu level 5 | 25 | 10 | 126 | 11 | 172 |
| 2 | Migori tier 4 | 21 | 9 | 58 | 14 | 102 |
| 3 | MTRH level 6 | 189 | 30 | 160 | 14 | 393 |
| 4 | Kakamega level 5 | 19 | 11 | 43 | 13 | 86 |
| 5 | Kitale tier 4 | 45 | 10 | 220 | 42 | 317 |
| 6 | Nyamira Tier 4 | 20 | 12 | 43 | 5 | 80 |
| 7 | Bungoma tier 4 | 11 | 9 | 45 | 3 | 68 |
| 8 | Webuye tier 4 | 0 | 0 | 0 | 0 | 0 |
| 9 | Rongo Tier 4 | 13 | 3 | 44 | 7 | 67 |
| 10 | Homa bay Tier 4 | 30 | 7 | 64 | 7 | 108 |
| 11 | Kisii level 5 | 44 | 10 | 132 | 13 | 199 |
| 12 | Butere tier 4 | 35 | 4 | 31 | 3 | 73 |
| 13 | Vihiga tier 4 | 34 | 5 | 41 | 3 | 83 |
| 14 | Kimilili tier 4 | 34 | 4 | 29 | 3 | 70 |
| 15 | Lumakanda tier 4 | 34 | 5 | 31 | 1 | 71 |
| 16 | Kisumu tier 4 | 35 | 4 | 45 | 4 | 88 |
| 17 | Uasingishu tier 4 | 35 | 5 | 34 | 3 | 77 |
| 18 | Yala tier 4 | 34 | 5 | 42 | 3 | 84 |
| 19 | Iguhu tier 4 | 35 | 4 | 28 | 2 | 69 |
| 20 | Siaya tier 4 | 34 | 4 | 46 | 7 | 91 |
| | Total | 727 | 151 | 1262 | 158 | 2298 |

b) Accumulative Numbers of Fetus, Juvenile and Adult Unclaimed Corpses, That Underwent Mass Grave Disposal Using Court Order for Justice and Accountability.

Appendix XIII: a & b



a) Distribution Of Adult Unclaimed Corpses in Relation to Uptake of Medico Legal Procedures and Health Laws by Public Mortuaries.



b) Explore on distribution of adult unclaimed Corpses admitted in public mortuaries.
 Appendix XIV: a & b

Notices View and search public Yellow Notices for missing persons

Total number of public Yellow Notices in circulation: **7921**



Yellow notices, uploaded at secured central point to enable NOK, search locate unclaimed corpses or missing persons both juvenile, and adults identify persons who are unable to identify themselves or dead respectively.

This site displays up to 160 notices per search result. Please refine your search criteria to find the notice you are looking for.

Search results: **7921**

| | | | |
|--|---|---|--|
| | | | |
| Trans nziya County. GUERREÑO MOREL ESTEBAN 30 years old | Migori County CHAVEZ CRUZ OHAD CALEF MAGDALENA 2 years old | Busia County GUERREÑO RECALDE ELIAN TOBIAS 3 years old | Uasin Gishu County GUERREÑO RECALDE DENIS IAN 2 years old |

Appendix XV



a) Improved Modern Mobile Embalming Machine for Developing Countries. Typical Embalming by Arterial Puncture to Improve

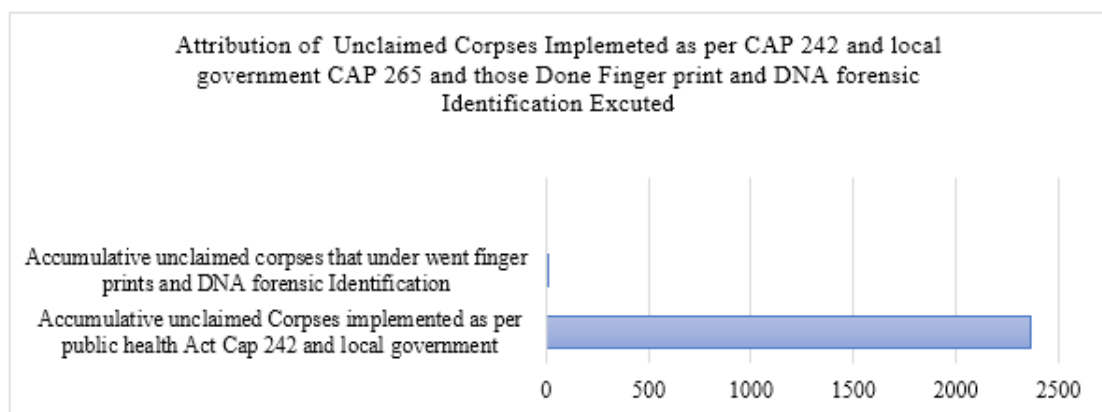


b) Mortuary Hygiene & Sanitation.

Appendix XV



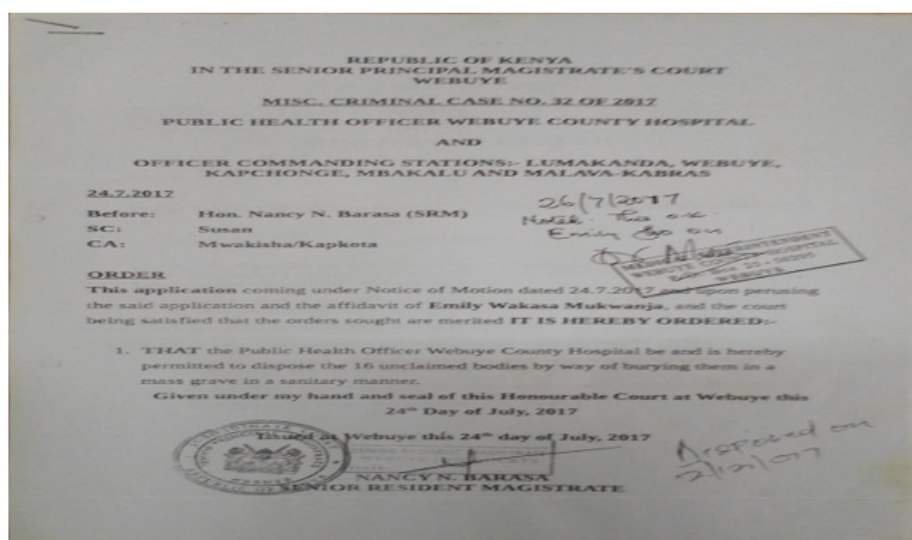
Appendix XVII



a) Uptake Of Medico Legal Procedures in Relation to Health Laws by Public Facility Mortuaries.



b) Amputated Hands and Adult Unclaimed Corpse Drowned in Water to Conceal Forensic Identification. Appendix XVIII: a & b



a) Sample of Court Order to Enable Justice Accountability for Mass Grave Disposal.



b) Latent Fingerprint Abstraction.

Appendix XIX: Retrospective Review Form.

Retrospective Review Form
(Secondary Study Population)
I OCCUPATIONAL HEALTH HAZARDS & INFECTIOUS RISKS, MAIN MEDICO LEGAL AND HEALTH LAWS ATTRIBUTED TO UN CEREMONIOUS MASS GRAVE DISPOSAL OF UNCLAIMED CORPSES FROM PUBLIC MORTUARIES OF WESTERN KENYA.

Name of the mortuary facility -----

A. Total Demographic characteristics for unclaimed body admitted in mortuary by inquest/ crime police from January 2017 to December 2021.

| | | | | |
|-----------------------------|-------------------------------|-------------------------------|-------|---------------|
| a) Gender/age | Unknown Male | Unknown Female | Total | Year |
| ..... | ..... | ..... | ..... | 2017 |
| ..... | ..... | ..... | ..... | 2018 |
| ..... | ..... | ..... | ..... | 2019 |
| ..... | ..... | ..... | ..... | 2020 |
| ..... | ..... | ..... | ..... | 2021 |
| Total | | | | 5yrs. |
| 1. b). Gender / Age | Unknown children [?] | Unknown infants/ still births | | Year |
| ..... | ..... | ..... |  | 2017 |
| ..... | ..... | ..... |  | 2018 |
| ..... | ..... | ..... |  | 2019 |
| ..... | ..... | ..... |  | 2020 |
| ..... | ..... | ..... |  | 2021 |
| Total Unclaimed..... | | | | 5 yrs. |

Manner / Cause of Deaths admitted in public mortuary

| | | |
|---|-------------------|-------------|
| i. Manner of Dead total per Year: 2017,2018 | 2019 | 2020 |
| 2021 | | |
| a. Homicide cases | ..... | ..... |
| b. Suicide cases | ..... | ..... |
| c. Road traffic accident | ..... | ..... |
| Total | ..... | ..... |
| ii. Cause of Dead Total per Year: 2017 | 2018 | 2019 |
| 2021 | | |
| a. Natural | ..... | ..... |
| | | |
| b. Unnatural | ..... | ..... |
| | | |
| Total Attributed Cause of dead for Last 5YRS |  | ..... |
| iii. Number of Unclaimed with Fingerprints/ DNA done: | 2017 | 2018 |
| 2020 2021 | | |
| | | |
| Total Fingerprints/DNA Done for Last 5YRS |  | ..... |
| iv. Number of Unclaimed bodies postmortem done | 2017 | 2018 |
| | 2019 | 2020 |
| | | 2021 |
| | | |
| Total Postmortem Done for 5 yrs | | |
| v. Number of Unclaimed bodies without postmortems done: | 2017 | 2018 |
| 2020 2021 | | |
| | | |
| Total Unclaimed Without Postmortem Done, Thus Mass Disposal for 5yrs | | |
| B. Data Filing system of medico legal in the facility: | 2017 | 2018 |
| 2021 | | |
| i. Likert's Scale Tick Appropriate | Very good | ..... |
| | Good..... | ..... |
| | Fair..... | ..... |
| | Bad..... | ..... |
| | Very Bad | ..... |

C. JUSTICE AND ACCOUNTABILITY DOCUMENTATION FOR UNCLAIMED BODIES BEFORE DISPOSAL

i.) No. of unclaimed bodies given Death certificates by Pathologist: 2017 2018
2019 2020 2021

Total Unclaimed bodies disposed with Death certificates for 5yrs.....

ii) No. of unclaimed bodies given Court orders by Magistrate: 2017 2018 2019
2020 2021

Total Unclaimed given Court orders by the magistrate for disposal for 5yrs.....

iii). No. of unclaimed bodies Donated to medical schools: 2017 2018 2019 2020
2021

Total Unclaimed Bodies Donated to for Cadaver Preparation for 5yrs.....

D. KNOWLEDGE ATTITUDE AND PRACTICES ON MASS DISPOSAL

- i. In your own opinion what is/ are effects of performing mass disposal on adult unclaimed bodies who have got identity cards and are fellow citizens of Kenya. As far as criminal justice and accountability is concerned in Kenya.
 - ii. What are main impacts of mass disposal on the community cultural practices, and psychosocial effects on the health population?
 - iii. What are the main occupational health risks attributed to accumulated unclaimed bodies in public mortuaries as far as public health is concerned?
- E. How BEST can we improve and prompt the accessibility of medico legal findings to influence early disposal of unclaimed bodies in Kenya to respective next of Kin and not mass disposal to cemeteries?

II TO EXPLOIT ON LEVEL OF OCCUPATIONAL HEALTH HAZARDS AND RISKS PREVALENCE ATTRIBUTED TO HANDLING OF UNCLAIMED CORPSES BY MORTUARY SERVICE PROVIDERS IN WESTERN KENYA.

A. Frequency distribution of occupational health hazards attributed to handling of overstayed Unclaimed corpses by Ticking (). Only One/ ones that you have ever been affected while working in the mortuary.

| NATURE OF HAZARD | INCIDENCE OF ATTACK |
|-------------------|---------------------|
| Chemical | |
| Biological | |
| Psychosocial | |
| Ergonomic | |
| Physical | |
| work organization | |
| Environmental | |

B. Frequency distribution of occupational infectious risks attributed to handling of overstayed Unclaimed corpses by Ticking () Only one/ ones you have ever been affected while working in the mortuary

| Name of Potential risk exposure unclaimed Corpse | Frequency of Attack |
|--|---------------------|
| 1.Infective Hepatitis B antigens | |
| 2.Infective Hepatitis C antigens | |
| 3.Menengitis | |
| 4.Merceration of integuments due to formalin | |
| 5.Infectious Skin disease | |
| 6.HIV/AIDs | |
| 7.Tuberculosis infection | |
| 8.Leukemia due to formalin exposure | |

Thank you for participating

Appendix XX: Sample of Notice Board Notification to Population Health of Unclaimed Corpses Due to Mass Disposal.

