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ORIGINAL ARTICLE

Factors associated with outpatient waiting time in selected first level hospitals in Lusaka district: A health care manager's perspective

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Background: Waiting time serves as an important indicator of healthcare system efficiency; when excessively long, it can result in adverse health outcomes, reduced patient adherence to care, and compromised overall quality of services. Addressing this issue is therefore critical to enhancing patient experience and strengthening the effectiveness of health service delivery.

Methods: The study employed a qualitative descriptive study design, engaging 12 healthcare managers who were purposively selected due to their direct involvement in managing outpatient services. Data were collected through in-depth interviews, which explored themes such as institutional practices, staff allocation, workflow management, and system-level factors contributing to prolonged waiting times. The interview data were analyzed using thematic analysis to identify patterns and insights relevant to service delivery challenges. This qualitative component was part of a larger mixed-methods study, integrating both quantitative

Conclusion: The findings show that long outpatient waiting times in public health facilities stem from systemic inefficiencies such as inadequate staffing, outdated manual systems, poor infrastructure, and the absence of clear policy frameworks. Addressing these challenges requires strengthening human resources through recruitment and training, adopting digital health information systems, upgrading infrastructure to meet patient demand, and establishing clear policy guidelines to streamline outpatient care. These measures can significantly reduce waiting times, improve patient satisfaction, and enhance overall service efficiency.

INTRODUCTION

Prolonged outpatient waiting times have become a persistent challenge in public health facilities across many low- and middle-income countries, including Zambia[1]. These delays negatively influence patient satisfaction, compromise the quality of care, and place additional strain on an already resource-constrained health system[2]. With Zambian health facilities increasingly burdened by rising patient volumes, inadequate infrastructure, and shortages of healthcare workers, long waiting times have emerged not only as an operational issue but also as a major obstacle to equitable and timely healthcare delivery according to the Zambia Health Sector Strategic Plan, 2017–2021[3]. The efficiency of outpatient services serves as a critical marker of a health system's responsiveness, and extended delays undermine both patient trust and progress toward

universal health coverage[4].

In the Zambian context, outpatient departments are the first and most common point of contact between communities and the formal healthcare system[5]. These departments frequently face overwhelming patient inflows, insufficient consultation space, and poorly coordinated patient flow processes, making service delivery challenging[4]. While prolonged waiting times are widely recognized, there is limited empirical evidence in Zambia that captures the perspectives of healthcare managers regarding the operational and systemic factors contributing to these delays[3]. International and regional studies indicate that waiting times are caused by multiple determinants, including socio-demographic characteristics, arrival patterns, appointment scheduling practices, staffing levels, and facility infrastructure[6]. However, these findings are context-specific, highlighting the need for locally generated evidence that reflects the perspectives of Zambian health managers to guide targeted and sustainable interventions.

METHODS AND MATERIALS

Study Design

A qualitative descriptive design was employed to explore the experiences, perceptions, and operational challenges associated with outpatient waiting times. The study used in-depth interviews and focus group discussions to capture rich, contextualized data from healthcare administrators, providers, and patients. This design facilitated an understanding of the systemic, organizational, and individual factors influencing waiting times in real-world clinical settings.

Study Setting

The research was conducted at Kanyama First Level Hospital and Chilenje First Level Hospital in Lusaka, Zambia. Kanyama Hospital serves a densely populated low-income informal settlement characterized by high patient volumes and resource limitations. Chilenje Hospital caters to a more socio-economically diverse population but faces similar challenges. These hospitals were selected as case study sites, representing typical systemic and operational constraints in Zambia's public healthcare facilities.

Population and Sampling

The target population for the qualitative component included healthcare providers, and administrators directly involved in outpatient services. Purposive sampling was employed to ensure representation across diverse managerial roles, including department heads, senior supervisors, and administrative coordinators, all of whom could provide detailed insights into the organization, staffing, and workflow management of outpatient services. A sample of 12 managers was selected, with the final number guided by data saturation, ensuring sufficient depth and diversity of perspectives.

Data Collection

Data were collected over a two-week period through in-depth interviews lasting 30–35 minutes each. Interviews were conducted primarily in English, with translations into local languages were necessary (Bemba and Nyanja) provided when necessary to facilitate effective communication. All interviews were audio-recorded with participant consent, complemented by field notes capturing non-verbal cues and contextual observations. The interview guides were pre-tested to verify clarity, relevance, and cultural appropriateness.

Data Management and Analysis

Qualitative data were transcribed verbatim, anonymized, and securely stored in password-protected databases. Thematic analysis following Braun and Clarke's six-step framework was used to identify, code, and organize patterns and recurring themes. Coding was iterative, with cross-validation among research team members to enhance reliability. Emerging themes were refined to capture the key drivers of outpatient waiting times, staff challenges, infrastructural limitations, and policy gaps. Integration of findings with broader contextual knowledge facilitated a comprehensive

understanding of systemic and operational factors influencing patient waiting experiences.

Ethical Considerations

Ethical approval for the study was obtained from the University of Zambia Biomedical Research Ethics Committee (UNZABREC, Ref. 6532-2025), the National Health Research Authority (NHRA, Ref. NHRA-2222/13/05/2025), and local authorities including the Lusaka District Health Office (DHO) and the Provincial Health Office. Participants were issued informed consent form to which they consented after reading through by signing and voluntary participation was ensured throughout the study. Confidentiality was maintained by assigning unique study codes, with all audio recordings and transcripts securely stored. Caregivers provided consent for minor participants. The study adhered to ethical standards outlined by the World Health Organization (WHO) and the Council for International Organizations of Medical Sciences (CIOMS), with potential conflicts of interest actively managed to ensure research integrity.

STUDY RESULTS

Table 1: Participants roles

Designation	N	%
Head of Clinical Care	1	8.3
Principal Clinical Officer	2	16.7
Nursing Officer	2	16.7
OPD Nurse In-Charge	2	16.7
Hospital Administrator	2	16.7
Planner	2	16.7
Quality Assurance Officer	1	8.3
Total	12	100%

The study included a total of 12 participants representing key roles within the health facility. The distribution was fairly balanced, with the majority being Principal Clinical Officers, Nursing Officers, Outpatient Department, Nurse In-Charges, Hospital Administrators, and Planners, each accounting for 16.7% of the participants (2 individuals per designation). The Head of Clinical Care and the Quality Assurance Officer were each represented by a single participant, comprising 8.3% of the sample. This composition ensured representation across both clinical and administrative functions.

Theme 1: Outpatient Waiting Time

Participants consistently reported that outpatient waiting times were excessively long, creating frustration for patients and straining service delivery. The waiting duration commonly ranged between three and five hours from registration to consultation and eventual exit. For many, these prolonged waits were seen as part of the normal experience of visiting a public facility.

> *"On average, it takes about 3 to 4 hours from registration to consultation and leaving the facility." (P10)*

> *"If you come here after 9 a.m., you should expect to leave in the afternoon because the queues move slowly." (P12)*

Theme 2: Factors Associated with Outpatient Waiting Time

Several interrelated factors were identified as drivers of long outpatient waiting times. These included inadequate staffing levels, reliance on manual registration systems, insufficient consultation rooms, and frequent interruptions caused by emergency cases. Each of these challenges compounded delays and slowed patient flow through the system.

> *"The registration process is slow because everything is manual, and we only have two desks handling all patients." (P01)*

"Emergencies disrupt the normal flow. When a critical case comes in, everyone else has to wait." (P03)

"Filing and searching for patient records manually takes a lot of time. Sometimes files get misplaced." (P06)

Theme 3: Service Delivery and digital system limitation

Service delivery processes, particularly registration and triage, were described as inefficient and slow. Participants emphasized that manual systems dominated most stages of the outpatient journey, from intake to consultation, creating bottlenecks that delayed care. These inefficiencies contributed significantly to the overall time patients spent at the facilities.

"We are still using paper files; there's no electronic system. This creates long queues." (P01)

"The registration process takes a lot of time because everything has to be written by hand." (P12)

Participants reported the absence of digital health systems and structured appointment scheduling significantly worsened patient congestion. Manual processes dominated, leaving facilities unable to manage patient flow effectively. Attempts to introduce appointment slots often failed due to unpredictable health needs and non-adherence by patients.

"Most patients are walk-ins; appointments don't really work because people can't predict illness." (P3)

"We tried to have appointment slots, but many patients do not adhere to the scheduled times." (P1)

"Everything is done manually, from registration to consultation scheduling." (P7)

Theme 4: Staff shortage

Chronic staff shortages were reported across all facilities, with doctors, nurses, and support staff insufficient to meet patient demand. Limited personnel meant that available staff often faced overwhelming caseloads, particularly during peak hours, leading to prolonged delays in patient care. Absenteeism and rotations further worsened the situation.

"We have only two doctors in the morning, sometimes just one after lunch." (P3)

"There are only a few clinicians attending to hundreds of patients daily." (P1)

"On many days, we have just three or four nurses to attend to a waiting area full of patients." (P5)

Theme 5: Iinfrastructure constraints

The physical environment of outpatient departments was repeatedly highlighted as inadequate for the patient load. Limited seating, poor ventilation, and overcrowded waiting areas left patients uncomfortable and contributed to disorderly queues. A shortage of consultation rooms further created bottlenecks that slowed down patient flow.

"There is very limited seating space in the waiting area. When the facility is crowded, many patients have no choice but to stand." (P3)

"The waiting areas are poorly ventilated, making it uncomfortable, especially during hot days." (P5)

"With only a few consultation rooms available, patients have to queue longer." (P6)

Theme 6: Time of Day and Week

The time patients arrived, as well as the day of the week, strongly influenced waiting times. Most participants noted that mornings and Mondays were peak periods, with patients crowding facilities in an attempt to be served earlier. However, this often backfired, as staff and systems became

overwhelmed during these times, resulting in slower service.

> *"Most patients prefer to come early, thinking they will be served faster. However, this causes everyone to crowd the facility at the same time." (P4)*

> *"During certain days like Mondays, the patient influx is noticeably larger than usual." (P7)*

> *"On some days, especially Mondays, we see a much higher number of patients than usual. The clinic becomes very crowded, and staff struggle to manage the flow efficiently. This leads to longer waiting times for everyone, and it can be stressful for both patients and healthcare providers." (P10)*

Theme 7: Emergency Cases

Emergency cases were consistently described as a major source of disruption in outpatient flow. While prioritizing emergencies was seen as appropriate, participants explained that it often delayed routine care for other patients, causing frustrations and longer waits.

> *"When emergencies arrive, they are prioritized, which is appropriate, but this means routine patients wait longer." (P5)*

> *"Emergencies are given priority, which is the right thing to do, but as a result, patients coming for routine care often have to wait much longer. This can make their visits frustrating and adds to the overall waiting time in the outpatient department." (P1)*

Theme 8: Limited waiting Time Policies

Participants indicated that Zambia lacks a specific national policy dedicated to outpatient waiting times. Instead, waiting time is only indirectly mentioned within broader health policy documents and quality improvement strategies. This absence of a clear framework has left facilities to manage the issue individually, resulting in inconsistency across the system.

> *"I am not aware of a specific policy that addresses outpatient waiting times. What we have are general quality improvement strategies."*

> *"The Health Services Quality Improvement Framework mentions patient satisfaction, which includes waiting time, but it is not a standalone guideline."*

Managerial recommendations to Reduce Waiting Times

Participants proposed several managerial solutions to address long outpatient waiting times in Lusaka's public health facilities. A key recommendation was **redistributing roles** through task-shifting, where nurses and clinical officers manage routine cases, leaving doctors to focus on complex conditions. As one participant explained,

"Right now, doctors are overwhelmed because they are seeing every type of case, even the minor ones. If some of these routine cases were shifted to nurses and clinical officers, it would really make a difference. Doctors could then concentrate on the complicated patients, and the queues would move much faster." (P04)"

Another common common suggestion was sstrengthening digital platforms such as SmartCare was viewed as essential to improve efficiency.

> *"Paper files slow us down. If SmartCare worked properly everywhere, registration would be faster, hence the need for strengthening smart care"* (P07).

They also recommended structured appointment systems, supported by SMS reminders, to reduce congestion, with one noting;

> *"If we had proper appointment times, patients wouldn't all come at once and wait the whole day"* (P02).

In addition, participants suggested **flexible staffing patterns**, especially during peak times such as mornings and Mondays.

"On Mondays, we need more clinicians in the morning. That's when the numbers are too high" (P09).

Participants further recommended for formulation of **national policy framework which focuses on reducing outpatient waiting time in public health facilities.**

"We really need a clear national policy that focuses specifically on outpatient waiting times. Right now, facilities are left to manage the problem in their own way, which makes things inconsistent." (P08)

"The Quality Improvement Framework talks about patient satisfaction, but it doesn't give direct guidance on waiting times. If we had a dedicated policy, it would help standardize how facilities handle patient flow and improve efficiency everywhere." (P06)

DISCUSSION

The findings indicate that out-patient services in Lusaka's public health facilities are characterized by excessively long waiting times, consistently frustrating patients and placing substantial strain on service delivery. Patients frequently spend between three and five hours navigating the outpatient process, from registration to consultation and discharge, and many perceive these delays as an inevitable part of visiting public facilities[1]. Accounts from healthcare managers confirm that prolonged waiting is a persistent feature rather than an occasional occurrence, reflecting deep-seated inefficiencies that compromise both quality of care and patient satisfaction[4]. These experiences highlight systemic weaknesses across multiple dimensions of outpatient service provision, including staffing, infrastructure, workflow processes, digital systems, and policy frameworks, which collectively prolong waiting times in ways documented across other low- and middle-income countries in Africa[7].

Staffing limitations emerged as a major contributor to delays. Most facilities operate with insufficient numbers of doctors, nurses, and support staff to meet patient demand, particularly during peak hours when volumes surge. Absenteeism, uneven distribution of staff, and rotational schedules exacerbate the mismatch between patient load and human resource capacity. Managers described situations in which a small number of clinicians are tasked with attending to hundreds of patients, resulting in extended consultation times and slow patient flow. Such human resource constraints have also been reported in studies across other lower and medium income countries, where inadequate staffing is linked to prolonged waiting and reduced service quality[8]. Task-shifting to nurses or mid-level health workers could help redistribute workload and enhance service efficiency, particularly in high-volume outpatient departments[9].

Operational procedures further contribute to inefficiency. Registration, triage, and patient intake remain predominantly manual, with paper records dominating the entire outpatient journey[10]. This reliance on manual systems creates bottlenecks, slows patient movement, and increases the risk of errors such as misplaced files or repeated verification of patient information. Triage and prioritization protocols are inconsistently applied, with emergencies receiving immediate attention at the expense of routine patients, who often experience longer delays[11]. Managers reported that eemergencies are given priority, which is appropriate, but routine patients often wait much longer, highlighting how operational practices, though clinically justified, exacerbate overall waiting times as noted by similar studies[12,9,10].

The absence of digital systems and structured appointment scheduling also worsens congestion. Facilities largely depend on walk-in patients, and prior attempts to implement appointment systems have been undermined by patients' unpredictable health-seeking behaviors[15]. Managers emphasized that without electronic patient management tools to schedule visits, monitor flow, or send reminders, facilities struggle to manage overcrowding effectively. Zambia's ongoing e-health initiatives, such as **SmartCare**, offer potential for improving patient tracking and scheduling, yet these systems

remain underutilized at many first-level hospitals[16,3]. Expanding digital solutions, combined with structured appointment systems, could significantly improve patient flow and reduce waiting times[3].

Facility infrastructure and physical environments further constrain service delivery. Limited consultation rooms, inadequate seating, narrow corridors, and poor ventilation create crowded and uncomfortable spaces that slow patient movement[17]. These environmental limitations not only reduce patient comfort but also impede staff efficiency in managing high patient volumes. Upgrading infrastructure and optimizing the layout of waiting and consultation areas are essential steps to support efficient patient flow[18].

Patient arrival patterns and emergency cases also influence service efficiency[19,20,19]. High volumes of patients typically arrive in the mornings and at the start of the week, creating congestion that overwhelms staff and systems. Unscheduled emergency cases, while clinically necessary to prioritize, interrupt routine consultations and extend waiting times for other patients, as reflected in manager accounts[11].

A further contributing factor is the absence of national standards specifically addressing outpatient waiting times. While Zambia-Monitoring-and-Evaluation-Framework-2022-to-2026-for for health sector provide guidance on general service quality, no explicit policy regulates, monitors, or sets benchmarks for outpatient waiting[22]. Consequently, individual facilities adopt varying practices, resulting in inconsistent patient experiences and inefficiencies across the system. Developing clear operational guidelines and policies targeting waiting times would support standardized practices, improve accountability, and enhance overall service quality[23,20].

Collectively, these findings illustrate the complex interplay of human resource shortages, procedural inefficiencies, inadequate infrastructure, limited digital capacity, unpredictable patient behavior, and policy gaps that underpin prolonged outpatient waiting times. Addressing these challenges requires a multi-faceted approach, including optimizing staff deployment and implementing task-shifting strategies, streamlining registration and consultation processes, expanding digital health tools and structured appointment systems, enhancing facility infrastructure, and establishing clear operational policies[25]. Such measures would reduce delays, improve patient flow and satisfaction, strengthen service efficiency, and enhance the overall capacity of Zambia's public health facilities to deliver timely, high-quality outpatient care[4].

Limitations of the Study

Despite providing valuable insights, the study has several limitations. First, data were collected from a limited number of public health facilities in Lusaka, which may restrict the generalizability of findings to other regions or healthcare levels in Zambia. Second, the reliance on participant perceptions may introduce subjective bias, as patients and staff may overestimate or underestimate waiting times or the impact of contributing factors. Third, the study primarily focused on outpatient departments, excluding other service areas that might experience similar or differing challenges, such as inpatient or emergency units. Fourth, observational or time-motion data were not systematically collected, limiting the ability to quantify exact waiting periods or precisely measure workflow inefficiencies. Finally, external factors such as seasonal variations, public holidays, or episodic disease outbreaks were not accounted for, which could influence patient volumes and waiting times. Despite these limitations, the study provides a critical understanding of outpatient waiting time dynamics and identifies actionable areas for improving service delivery in public health facilities.

CONCLUSION

Findings show that long outpatient waiting times in public health facilities stem from systemic inefficiencies, including inadequate staffing, outdated manual systems, poor infrastructure, and weak policy frameworks.

Reducing these delays requires strengthening human resource capacity through recruitment and continuous training, adopting digital health systems to streamline patient management, upgrading infrastructure to meet demand, and implementing clear policies to standardize outpatient care. These measures can significantly cut waiting times, improve patient satisfaction, and enhance overall efficiency in service delivery.

Conflict of Interest

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REFERENCES

1. Villegas AC, Saylor D, Kvalsund M, et al. Task-shifting to optimize outpatient neurological care in Zambia. *Hum Resour Health*. 2021;19(1):88. doi:10.1186/s12960-021-00619-7

2. Beck D, Veliz PT, Munro-Kramer M, et al. Exploring change over time in community mobilization domains: results from a maternity waiting home intervention in rural Zambia. *Int J Equity Health*. 2021;20(1):228. doi:10.1186/s12939-021-01557-5

3. ZMB_Zambia_National-Health-Strategic-Plan_2017-2021.

4. Sialubanje C, Kaiser JL, Ngoma T, et al. Postnatal care services in rural Zambia: a qualitative exploration of user, provider, and community perspectives on quality of care. *BMC Pregnancy Childbirth*. 2023;23(1):39. doi:10.1186/s12884-023-05350-w

5. Yam EA, Namukonda E, McClair T, et al. Developing and Testing a Chatbot to Integrate HIV Education Into Family Planning Clinic Waiting Areas in Lusaka, Zambia. *Glob Health Sci Pract*. 2022;10(5):e2100721. doi:10.9745/GHSP-D-21-00721

6. Chang G, Doshi A, Chandarana H, Recht M. Impact of COVID-19 Workflow Changes on Patient Throughput at Outpatient Imaging Centers. *Acad Radiol*. 2021;28(3):297-306. doi:10.1016/j.acra.2020.12.016

7. Haleema Muhamed. Wainting time and Patients satisfaction. :2023.

8. Bilandži J. A Prospective Observational Study to Assess Waiting Times to First Treatment in Patients Diagnosed with Brain Tumor. *Acta Clin Croat*. 2022;61. doi:10.20471/acc.2022.61.01.15

9. Redhead G. 'A British Problem Affecting British People': Sickle Cell Anaemia, Medical Activism and Race in the National Health Service, 1975–1993. *Twent Century Br Hist*. 2021;32(2):189-211. doi:10.1093/tcbh/hwab007

10. Marinaci T, Venuleo C, Savarese G. The COVID-19 Pandemic from the Health Workers' Perspective: Between Health Emergency and Personal Crisis. *Hum Arenas*. 2023;6(3):478-498. doi:10.1007/s42087-021-00232-z

11. Moore MD. Waiting for the Doctor: Managing Time and Emotion in the British National Health Service, 1948–80. *Twent Century Br Hist*. 2022;33(2):203-229. doi:10.1093/tcbh/hwab040

12. Schmidt S, Madsen KP, Pedersen-Bjergaard U, et al. Associations between clinical and

psychosocial factors and HbA1c in adult insulin pump users with type 1 diabetes. *Acta Diabetol*. 2023;60(8):1089-1097. doi:10.1007/s00592-023-02081-4

13. Villaverde, Md MRD, Solanoy, Md VTM, Batac, Md MCFR. Knowledge, Attitudes, and Practices of Filipino Medical Interns on the Management of Superficial Cutaneous Mycoses: A Cross-sectional Study. *Acta Med Philipp*. 2024;58(17). doi:10.47895/amp.v58i17.9214

14. Salehzadeh Niksirat K, Rahmamuliani F, Ren X, Pu P. Understanding intergenerational fitness tracking practices: 12 suggestions for design. *CCF Trans Pervasive Comput Interact*. 2022;4(1):13-31. doi:10.1007/s42486-021-00082-2

15. Moore MD. Waiting for the Doctor: Managing Time and Emotion in the British National Health Service, 1948–80. *Twent Century Br Hist*. 2022;33(2):203-229. doi:10.1093/tcbh/hwab040

16. Villegas AC, Saylor D, Kvalsund M, et al. Task-shifting to optimize outpatient neurological care in Zambia. *Hum Resour Health*. 2021;19(1):88. doi:10.1186/s12960-021-00619-7

17. Naiker U. *Waiting Times: The Outpatient Referral Process, Variation, Performance and Structural Influences*. Queensland University of Technology; 2017. doi:10.5204/thesis.eprints.108004

18. Filippini T, Vinceti SR. Italian National Recovery and Resilience Plan: a Healthcare Renaissance after the COVID-19 crisis? Recovery and Resilience beyond COVID-19. *Acta Biomed Atenei Parm*. 2021;92(S6):e2021463. doi:10.23750/abm.v92iS6.12339

19. Biya M, Gezahagn M, Birhanu B, Yitbarek K, Getachew N, Beyene W. Waiting time and its associated factors in patients presenting to outpatient departments at Public Hospitals of Jimma Zone, Southwest Ethiopia. *BMC Health Serv Res*. 2022;22(1):107. doi:10.1186/s12913-022-07502-8

20. Soliman AT, Alaaraj N, De Sanctis V, Hamed N, Alyafei F, Ahmed S. Long-term health consequences of central precocious/early puberty (CPP) and treatment with Gn-RH analogue: a short update: Long term consequences of precocious puberty. *Acta Biomed Atenei Parm*. 2023;94(6):e2023222. doi:10.23750/abm.v94i6.15316

21. Mbwogge M, Astbury N, Nkumbe HE, Bunce C, Bascaran C. Waiting Time and Patient Satisfaction in a Subspecialty Eye Hospital Using a Mobile Data Collection Kit: Pre-Post Quality Improvement Intervention. *JMIRx Med*. 2022;3(3):e34263. doi:10.2196/34263

22. Zambia-Monitoring-and-Evaluation-Framework-2022-to-2026-for-the-NHSP.

23. Færk G, Ahlström MG, Lura VHE, et al. Referral Pathways for Children with Atopic Diseases in Denmark. *Acta Derm Venereol*. 2024;104:adv34961. doi:10.2340/actadv.v104.34961

24. Alhussein MS, Liu X. Factors Impacting Patient Perspectives on Telehealth and Remote Healthcare during COVID-19: A Mixed Methods Study. *Telemat Inform Rep*. 2022;8:100033. doi:10.1016/j.teler.2022.100033

25. Bolton Moore C, Pry JM, Mukumbwa-Mwenechanya M, et al. A controlled study to assess the effects of a Fast Track (FT) service delivery model among stable HIV patients in Lusaka Zambia. Francis JM, ed. *PLOS Glob Public Health*. 2022;2(8):e0000108. doi:10.1371/journal.pgph.0000108

26. Cucinotta D. 2022 - Pros and Cons in General Internal Medicine and Geriatrics. *Acta Biomed Atenei Parm*. 2023;94(1):e2023063. doi:10.23750/abm.v94i1.14226