



## Editorial

## Shortage of hospital bed capacity and overcrowding in emergency tertiary healthcare centers in Nigeria



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## ABSTRACT

Shortage of hospital bed capacity and overcrowding remains a significant problem in Nigeria's healthcare system. The problem is even more conspicuous in emergency units in various health institutions. Despite Nigeria's already high morbidity burden, overcrowding remains a problem in these parts. The problem of overcrowding in tertiary health institutions can be traced back to a more specialized approach the institutions give as well as self-referrals that is common among community populations. The resultant effect is the referral of patients which can worsen already severe complications if not admitted immediately. Our study contributes to providing more information regarding the problems causing the shortage as well as recommends tenable solutions that could be enacted to solving this pressing problem.

The Nigerian healthcare system is divided into three levels that start from Primary Healthcare delivery which serves as a community entry point for local community members and handles minor and general cases; followed by the secondary healthcare delivery system which is an immediate healthcare level that offers more specialized care and is usually state-run. They include general hospitals, district hospitals, and comprehensive health centers. Tertiary healthcare however provides a highly specialized healthcare delivery through teaching hospitals, federal medical centers, and national laboratories. Tertiary health institutions handle medical and surgical conditions with higher-risk complications. Community members visit Primary Health Care [PHC] and if severe enough or beyond the capacity of the PHC, are then referred to the teaching hospitals that provide a multi-disciplinary approach and access to more facilities. There are also cases of self-referral to tertiary institutions as over 60% reportedly bypass the primary healthcare facilities to self-refer to higher healthcare levels in Nigeria [1]. The result is the overloading of patients beyond the capacities of the referral facilities.

Tertiary health institutions are therefore plagued with a myriad of challenges especially as it relates to the provision of emergency health delivery efficiently. A common problem is a deficit between the Hospital Bed Capacity and the number of patients needing immediate attention and admission. This is not surprising knowing that Nigeria's bed capacity stands at 0.9 hospital beds per 1000 people, a drastic discrepancy when compared to the global average of 2.3 hospital beds per 1000 people [2].

Due to overpopulation and a severe lack of hospital beds, Nigeria's emergency tertiary healthcare facilities are becoming unable to meet current requirements for fast response. There is a dearth of evidence to support this capacity problem. Therefore, the goal of this study was to identify the root reasons for this issue and suggest solutions.

Emergency service delivery is however not a new topic in Nigeria's tertiary institutions. Despite Nigeria's high burden of morbidity, the emergency department of University College Hospital, Ibadan remains the first and only existing institution accredited by the National Post-graduate Medical College of Nigeria. Emergency care in other centers is relatively done in combination with other medical specialties like obstetrics & Gynecology and Surgery.

In the spectrum of medical care, emergency rooms continue to hold a crucial strategic role in every country [3]. A vital aspect of healthcare, emergency department (EDs) are open 24 h a day, seven days a week, especially for those who need immediate attention [3]. The ED is one of the few establishments that are constantly accessible and ready to help everyone. Its services are offered without respect to one's social or economic standing and an appointment. Overcrowding and a lack of beds in Nigeria's emergency tertiary healthcare facilities have been severe health issues for more than ten years [4,5]. The general public and medical experts are becoming more aware of Nigeria's emergency rooms' incapacity to handle the country's present demand. The capability of Nigeria's emergency health services has essentially been reached due to the escalating crisis of bed shortage and overcrowding. The resultant issue, known as urgent congestion and bed scarcity, now poses a threat to those who most require emergency services being able to access them [5,6].

In Nigeria's emergency centers, there are too few beds and too many people, which is an obvious sign that demand has outpaced supply [5]. Surprisingly, this overuse of emergency responders is not typically caused by people with non-emergent conditions using them excessively or inappropriately. It is a result of an increase in the number of patients needing hospital and/or intensive care unit admission due to serious diseases or injuries [2]. Accessing emergency care is becoming increasingly difficult due to overcrowding and a lack of beds, which

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compromises patient privacy and confidentiality, delays in receiving care and time-sensitive therapies, patient departure before care is finished, and staff and patient dissatisfaction [7].

The shortage of hospital bed capacity is closely linked with understaffing and overpopulation in tertiary hospitals. For some tertiary healthcare facilities, the challenge is not merely the absence of open bed spaces for admission of inpatients but the understaffing of healthcare workers such as doctors and nurses such that they are unable to provide care to additional patients beyond their capacity. A common practice to combat this is the reverse triage approach. This method is a response of the Emergency Department that gives priority to Emergency department patients by the early discharge of inpatients of the hospital. This creates more bed capacity where each patient can be sufficiently managed. While there is still a significant knowledge gap regarding the reverse triage approach, studies have reported return visits from discharged patients from hospitals that used this approach and a significant incidence of adverse effects and re-admission [8].

Ultimately, patients' health is negatively impacted by acute or persistent bed shortages in hospitals. This situation has spread over the entire world and is now a serious crisis that necessitates immediate action particularly when it comes to the shortage of acute and critical care unit beds [7]. However, the issue is even more severe in emerging regions like Nigeria where discrepancies in the allocation of health resources due to poverty, inequality, and other factors play a significant influence [9].

According to data available, Nigeria had 19,907 hospital beds in 2018, with a turnover rate per bed of 99.7% and an average duration of stay of 3.3 days [10]. The hospital bed-to-population ratio in Nigeria is 0.9, which is insufficient [10]. Hospital bed shortages unquestionably have a variety of detrimental effects on patients. Various investigators have supported the fact that scarcity of beds led to the worst health outcome among patients before giving treatment which later results in higher mortality rates in the emergency department because complications could arise before healthcare attention is given [11–13].

Additionally, a lack of hospital beds lengthens the time patients must wait in outpatient clinics. Another study's findings suggest that clinicians' early discharge of hospitalized patients was caused by a lack of available hospital beds [14]. Hospital bed shortages can lead to problems, but they can have significant negative effects on patient health. Although, it has been proven that hospital mattresses and beddings serve a therapeutic purpose and give patients comfort, it can also cause problems if not available. The importance of comfort in healthcare therefore cannot be overstated.

Finally yet importantly, concerns like hospital bed shortages and patient overpopulation are not given the critical attention they deserve in developing nations like Nigeria and others where poverty is great [15]. Overcrowding and hospital beds, however, negatively impact healthcare. Patients in Nigeria have reportedly been denied medical care because there aren't enough hospital beds available [13,16]. Others point to ineffective floor nursing, unnecessary hospital transfers, and care delays that frequently lead to complications and mortality. For healthcare consumers, uncomfortable beds and a shortage of linens are other important issues. The threat is always increasing, and the news has gotten out of control.

The recommendations include:

1. State-specific guidelines governing the reverse triage approach should be considered in cases of disaster and surges in patients influx.
2. It is recommended that the tertiary emergency centers in Nigeria liaison with nursing homes and long-term care facilities to simplify hospital releases and attention to the patients in need of immediate medical services.
3. Include actions to reduce emergency department crowding in system-wide performance improvement targets instead of responding to overcrowding in the emergency department after it has already happened. The emergency tertiary system should create a

strategic planning program that is meant to assist hospitals anticipate and prepare for it. Overcrowding in emergency rooms is a sign of numerous health care system failures. Failure to provide appropriate inpatient capacity for an emergency department populace with illnesses of increasing severity is the primary contributor to congestion in emergency rooms. The overpopulation situation will need to be addressed systemically and in a multidisciplinary manner.

4. Better home care and nursing home arrangement for the elderly, more organized and meticulous discharge planning, quicker evaluations in the emergency room, for instance, faster turnaround times for labs, radiology, and consultations are all examples of ways to increase the accessibility of acute care beds.
5. Measures that could lessen emergency department overcrowding include quicker transfers to different admitting wards if admitted, better care of the emergency room bed capacity, better management of chronic diseases in the community to prevent emergency department attendance, and prevention of diseases that cause emergency department attendance. It's crucial to avoid or lessen access restrictions to the emergency room. Therefore, one of the top concerns in medical emergency treatment should be investing resources to decrease emergency room overcrowding.

#### Ethical approval

Ethical approval was not required during the course of the study.

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#### Author contribution

Both authors were involved in the study concept, design and writing the paper.

#### Conflict of interest

The authors declare no conflict of interest during the course of this study.

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None.

#### Garantor

N/A.

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#### References

- [1] EN Agunwa, SU Arinze-Onyia, T Okeke, EC Aniwada, Excessive and inappropriate utilization of a tertiary health center in South-East Nigeria, *TAF Prev. Med. Bull.* 9 (1) (2010) 15–22.
- [2] J.A. Razzak, A.L. Kellermann, Emergency medical care in developing countries: is it worthwhile? *Bull. World Health Organ.* 80 (2002) 900. –5.

- [3] A.O. Adeodu, I.A. Daniyan, O.O. Adaramola, Anthropometry as ergonomic consideration for hospital bed design in Nigeria, *Int. J. Sci. Eng. Res.* 5 (5) (2014) 485–492.
- [4] O.A. Adewole, I.O. Fadeyibi, M.O. Kayode, et al., Ambulance Services of Lagos State, Nigeria: a Six-Year [2001-2006] Audit, vol. 31, *West Afr J Med.*, 2012, pp. 3–7.
- [5] Z. Obermeyer, S. Abujaber, M. Makar, et al., Emergency care in 59 low and middle-income countries: a systematic review, *Bull. World Health Organ.* 93 (2015) 577–586.
- [6] Namita Jayaprakash, Ronan O’Sullivan, Tareg Bey, S. Suleman, Ahmed, shahram lotfpour, crowding and delivery of healthcare in emergency departments: the European perspective, *West. J. Emerg. Med.* 10 (2009) 233–239.
- [7] L. Cannoodt, C. Mock, M. Bucagu, Identifying barriers to emergency care services, *Int. J. Health Plann. Manag.* 27 (2012) e104–e120.
- [8] G. Pollaris, M. Sabbe, Reverse triage: more than just another method: more than just another method, *Eur. J. Emerg. Med.: Official J. Eur. Soc. Emer. Med.* 23 (4) (2016) 240–247, <https://doi.org/10.1097/mej.0000000000000339>.
- [9] N. Nnamdi, Improving care & response in Nigeria, *J. Emerg. Med. Serv.* 6 (2017).
- [10] The World Bank. Hospital Beds [per 1,000 People] – Nigeria. Available: data.worldbank.org/indicator/SH.MED.BEDS.ZS?most\_recent\_value\_desc=false [Accessed April 25, 2020].
- [11] P.A. Mac, A. Kroeger, P.E. Airiohuodion, Needs assessment of emergency medical and rescue services in Abuja/Nigeria and environs, *BMC Emerg. Med.* 19 (2019) 78.
- [12] M.C. Blom, K. Erwander, L. Gustafsson, M. LandinOlsson, F. Jonsson, K. Ivarsson, The probability of readmission within 30 days of hospital discharge is positively associated with inpatient bed occupancy at discharge – a retrospective cohort study, *BMC Emerg. Med.* 15 (37) (2015) 1–6.
- [13] A.O. Babatunde, A.T. Aborode, P. Agboola, Implications of COVID-19 on the healthcare infrastructural development in Nigeria, *Jundishapur J Health Sci* 12 (4) (2020), e112934.
- [14] M.O. Fajobi, E.A. Awoyemi, A.S. Onawumi, Ergonomic evaluation of hospital bed design and anthropometric characterization of adult patients in Nigeria, *Int. J. Sci. Eng. Res.* 7 (8) (2016) 640–651.
- [15] P.O. Olaniyi, F.T. Oluwatobi, M.E. Olaniyan, O.A. Olajide, B.A. Sunday, A. T. Aborode, C.O. Inya, U.A. Chinonso, Healthcare systems strengthening in Africa: the call for action to achieve SDG 3, *Int. J. Health Plann. Manag.* 37 (1) (2022 Jan) 14–20, <https://doi.org/10.1002/hpm.3338>. Epub 2021 Sep 27. PMID: 34580911.
- [16] A.T. Aborode, A.C. Corriero, Q. Mehmood, A. Nawaz, Aayush, P. Upadhyay, R. Badri, M.M. Hasan, People living with mental disorder in Nigeria amidst COVID-19: challenges, implications, and recommendations, *Int. J. Health Plann. Manag.* 37 (3) (2022 May) 1191–1198, <https://doi.org/10.1002/hpm.3394>. Epub 2021 Nov 25. PMID: 34825400; PMCID: PMC9015638.

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