

Risk Communication Capacity at Nigerian Points of Entry: A Comparative Assessment Against International Health Regulations (2005) Core-Capacity Requirements

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Abstract

Background: Risk communication-the timely exchange of information between health authorities, operational stakeholders, and the travelling public-is a core capacity under the IHR (2005) and determines how quickly an emerging cross-border health threat can be contained at a Point of Entry (POE). **Objective:** To assess and compare the functionality of risk communication channels, access to decision-makers, and communication linkages with competent authorities across Nigeria's busiest airport, seaport, and land border. **Methods:** A comparative cross-sectional study administered a structured questionnaire to 122 personnel (41 airport, 41 seaports, 40 land border), supplemented by focus group discussions and key informant interviews, at Murtala Muhammed International Airport, Apapa Seaport, and the Seme land border between February and May 2017. Quantitative data were analysed descriptively; qualitative data were thematically analysed. **Results:** A functional risk communication channel was reported by 46.3% of airport, 22.0% of seaport, and 65.0% of land-border respondents. Access to decision-makers was reported by 63.4%, 17.1% and 42.5% respectively. Domestic communication links with competent authorities were reported by 63.4%, 39.0% and 75.0%, and international links by 36.6%, 12.2% and 77.5%, at the same three sites. Informal risk communication relied on personal mobile phones and WhatsApp rather than formal channels, with no mechanism at any site for disseminating WHO or neighbouring-country recommendations within 24hours. **Conclusion:** Risk communication capacity at Nigerian POEs is inconsistent and, at the seaport in particular, markedly inadequate, relying substantially on informal, personal channels rather *than institutionalised systems*. *Investment in formal IHR-compliant risk communication infrastructure, especially at Apapa Seaport, is needed to close this gap.*

Keywords: Risk communication; International Health Regulations; points of entry; public health emergency; health communication; Nigeria; core capacity

Introduction

Risk communication is defined by WHO as the real-time exchange of information, advice, and opinion between experts and people facing threats to their health, economic, or social wellbeing, with the ultimate purpose of enabling those at risk to take informed protective action.¹ Under the IHR (2005), functional risk communication is a named core capacity at designated Points of Entry (POEs): States Parties are required to communicate and disseminate WHO recommendations and information among relevant health facilities and operational stakeholders at POEs.²

Where risk communication systems are informal, personal, or dependent on individual initiative rather than institutionalised protocols, the timeliness and reliability of information flow during an actual public health event of international concern cannot be assured. Comparable studies in Uganda and Sri Lanka have found similarly informal, unstandardised risk communication arrangements at POEs, with no designated spokesperson for public health emergencies in either country at the time of assessment.^{3,4}

This study examines risk communication capacity at Nigeria's busiest air, sea, and land POEs, assessing both the existence of formal communication channels and respondents' practical access to decision-makers and competent authorities, domestically and internationally.

Methods

Design and setting

This descriptive comparative cross-sectional study combined structured questionnaire administration with focus group discussions and key informant interviews at Murtala Muhammed International Airport (MMIA), Apapa Seaport, and the Seme land border, Lagos State, Nigeria, between 20 February and 11 May 2017.

Sample and instruments

A structured, interviewer-administered questionnaire was completed by 122 respondents (41 airport, 41 seaports, 40 land border), selected by simple random sampling from staff with more than one year at their current station. The questionnaire, developed from the WHO IHR core-capacity assessment protocol, assessed the existence of functional risk communication channels, access to decision-makers and joint stakeholder activities, and domestic and international communication links with competent authorities. Twelve key informant interviews and three focus group discussions (10-12 participants each) provided qualitative depth on the mechanics and reliability of communication in practice.

Analysis

Quantitative data were analysed descriptively (frequencies and percentages) in SPSS version 23, stratified by POE. Qualitative data were transcribed verbatim and analysed thematically using inductive coding.

Ethical considerations

Ethical clearance was obtained from the Kwara State University Institutional Research Board and Publication Committee, with permission from the Federal Ministry of Health, FAAN and the WHO Country Office, Nigeria. Written and verbal informed consent was obtained from all participants.

Results

Functional risk communication channels

As shown in Table 1, an established functional risk communication channel was reported by 46.3% of airport respondents, 22.0% of seaport respondents, and 65.0% of land-border respondents.

Table 1. Existence of established functional risk communication channels by Point of Entry

Functional risk communication channel?	Airport n (%)	Seaport n (%)	Land border n (%)
Yes	19 (46.3%)	9 (22.0%)	26 (65.0%)
No	22 (53.7%)	32 (78.0%)	14 (35.0%)
Total	41	41	40

n = number of respondents.

Access to decision-makers and joint stakeholder activities

Access to decision-makers, contacts, and opportunities for joint activities with stakeholders was reported by 63.4% of airport respondents, 17.1% of seaport respondents, and 42.5% of land-border respondents (Table 2).

Table 2. Access to decision-makers, contacts and joint stakeholder activities by Point of Entry

Access to decision-makers?	Airport n (%)	Seaport n (%)	Land border n (%)
Yes	26 (63.4%)	7 (17.1%)	17 (42.5%)
No	15 (36.6%)	34 (82.9%)	23 (57.5%)
Total	41	41	40

n = number of respondents.

Communication links with competent authorities

Domestic communication links with competent authorities were reported by 63.4% at the airport, 39.0% at the seaport, and 75.0% at the land border. International communication links were markedly lower overall: 36.6% at the airport, 12.2% at the seaport, and 77.5% at the land border (Table 3).

Table 3. Domestic and international communication links with competent authorities

Link type / Response	Airport n (%)	Seaport n (%)	Land border n (%)
Domestic link - Yes	26 (63.4%)	16 (39.0%)	30 (75.0%)
Domestic link - No	15 (36.6%)	25 (61.0%)	10 (25.0%)
International link - Yes	15 (36.6%)	5 (12.2%)	31 (77.5%)
International link - No	26 (63.4%)	36 (87.8%)	9 (22.5%)

n = number of respondents (denominators: airport 41, seaport 41, land border 40).

Informal communication practice

Qualitative data indicated that formal risk communication channels were frequently supplemented, or in practice substituted, by informal means. One airport focus group respondent stated: "We disseminate any risk information we receive using our personal mobile phones or through WhatsApp." Respondents further reported that no urgent events were consistently attended to within 24 hours at any POE, and that no clear mechanism existed for disseminating information and recommendations received from WHO or neighbouring countries, with the exception of the Seme land border, where the incident commander served as the designated first point of contact for international risk communication.

Discussion

Risk communication capacity varied markedly across the three POEs assessed, with the seaport performing consistently worst on every indicator-functional channel existence (22.0%), access to decision-makers (17.1%), domestic communication links (39.0%) and international communication links (12.2%)-while the land border performed comparatively well on domestic and international linkage (75.0%

and 77.5% respectively), likely reflecting the localised effect of the externally facilitated Public Health Emergency Contingency Plan and its designated incident-commander communication role.

The reliance on personal mobile phones and WhatsApp for risk information dissemination, in the absence of a formal, standardised channel, mirrors informal risk communication patterns documented in Tanzania⁵ and is consistent with Sri Lanka's finding of no designated spokesperson for public health emergencies.⁴ While informal channels can provide some functional redundancy, they are not a substitute for the accountable, auditable, 24-hour communication mechanism envisaged under IHR (2005), particularly given that respondents reported that no site consistently met a 24-hour response standard for urgent events.

The comparatively strong land-border performance, despite that site's severe workforce shortages documented elsewhere in this evaluation, suggests that risk communication capacity is not solely a function of staffing numbers but can be meaningfully improved through targeted process interventions-such as a designated incident commander and a documented contingency plan-even where broader resource constraints persist.

Limitations

As a cross-sectional study, these findings represent a snapshot of risk communication capacity in 2017 and may not reflect subsequent improvements, including any post-2017 investments prompted by Nigeria's Joint External Evaluation. Self-reported access to decision-makers may be subject to respondent-role bias, as more senior staff may report greater access than frontline personnel.

Conclusion and Recommendations

Risk communication capacity at Nigeria's principal POEs is inconsistent, with Apapa Seaport showing the most pronounced deficits across every indicator assessed, and informal channels such as personal mobile phones substituting for standardised, accountable communication systems at all sites.

- Establish a formal, documented risk communication protocol with designated escalation pathways at every major POE, modelled on the land border's incident-commander approach.
- Prioritise investment in functional risk communication infrastructure at Apapa Seaport, which recorded the weakest performance across every indicator in this study.

- Formalise a 24/7 communication mechanism for disseminating WHO and neighbouring-country recommendations, with defined response-time standards.
- While informal channels (mobile phone, WhatsApp) can remain a practical supplement, they should be documented and integrated into, rather than substituted for, a formal risk communication system.

Declarations

Ethical approval: This study was approved by the Kwara State University Institutional Research Board and Publication Committee, with further permission obtained from the Federal Ministry of Health, the Federal Airports Authority of Nigeria, and the WHO Country Office, Nigeria.

Informed consent: Written and verbal informed consent were obtained from every human participant prior to enrolment, after the purpose of the study was explained and confidentiality was assured.

Consent for publication: Not applicable; no identifying individual data are reported.

Availability of data and materials: The datasets analysed during the current study are available from the corresponding author on reasonable request.

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