Are Primary Health Prepared to Respond to Infectious Threats? A Tabletop Exercise

Estarão os Cuidados de Saúde Primários Preparados para Ameaças Infeciosas? Um Exercício de Simulação

Keywords: Health Planning; Influenza A Virus, H5N1 Subtype; Marburg Virus Disease; Measles; Primary Health Care; Simulation Training
Palavras-chave: Cuidados de Saúde Primários; Doença do Vírus de Marburg; Exercício de Simulação; Planeamento em Saúde; Sarampo; Vírus da Gripe A, Subtipo H5N1

Primary Health Care Units (PHCU) play a pivotal role in implementing preventive strategies aimed at mitigating and containing infectious disease outbreaks."[1] Tabletop exercises (TTX) provide a simulation setting to identify gaps in emergency protocols and communication, strengthening healthcare system preparedness.[2] As such, a TTX was conducted on February 3rd, 2025, coordinated by the Infection Prevention and Control Programme team (UL-PPCIRA) responsible for primary healthcare units in Northern Lisbon (Santa Maria Local Health Unit). The exercise involved representatives from 15 (83%) PHCUs. It aimed to evaluate the strengths, weaknesses, opportunities, and threats (SWOT analysis) of various Primary Health Care Units (PHCUs) in relation to their existing procedures and preparedness for infectious disease threats, using measles, Marburg virus disease, and avian influenza A (H5N1) as potential scenarios.

Scenarios were first presented in a blinded format to engage participants in open discussion and decision-making based solely on the clinical presentation and epidemiological context provided. After the initial analysis and group discussion, the diagnosis underlying each scenario was disclosed to prompt further reflection and evaluation of the proposed management strategies. Participants filled out sheets based on the SWOT framework, capturing the key points discussed during the exercise (Table 1). This data was analyzed using thematic analysis.

In the different scenarios, five main themes emerged: inadequate infrastructure, availability and training of human resources, processes/protocols, patient barriers and communication. With respect to infrastructure, several units reported the absence of isolation rooms or the presence of inadequate facilities. In addition, poorly designed waiting areas further undermined the effectiveness of isolation measures. Regarding human resources, concerns were raised about non-healthcare professionals in several units, such as security guards and administrative assistants, lacking training to identify potential infectious diseases and guide patients towards isolation circuits and/or alert healthcare workers. All participants thought the cleaning staff were not adequately trained in disinfection protocols. Moreover, healthcare professionals were not familiar with mandatory or isolation procedures.

Most units reported not having processes/protocols in place to establish isolation circuits. In addition to these factors, language barriers or non-cooperative patients (e.g., refusing to use personal protective equipment) were seen as threats to implement procedures correctly. Regarding communication with healthcare workers, established communication and rapport between PHCU teams were seen as strengths while external communication with other health teams and institutions was a challenge, as most teams were unsure of the correct channels or contacts to use.

Based on this exercise, it became clear PHCU were not fully prepared to face outbreaks. As such, there are ongoing efforts across northern Lisbon to develop and implement procedures to minimize transmission of infectious diseases in healthcare settings that include audits of infection control practices and training of professionals.

PREVIOUS AWARDS AND PRESENTATIONS

An abstract of this study was submitted to the XVI National Meeting of Public Health Medical Residents and was accepted for a poster on May 28th, 2025.

ACKNOWLEDGMENTS

The authors have declared that no AI tools were used during the preparation of this work.

AUTHOR CONTRIBUTIONS

MAT, MS: Literature review, data analysis and interpretation, writing and critical review of the manuscript.
MMP: Supervision of the work, critical review of the manuscript.
All authors approved the final version to be published.

PROTECTION OF HUMANS AND ANIMALS

The authors declare that the procedures were followed according to the regulations established by the Clinical Research and Ethics Committee and to the Helsinki Declaration of the World Medical Association updated in October 2024.

DATA CONFIDENTIALITY

The authors declare having followed the protocols in use at their working center regarding patients' data publication.

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

FUNDING SOURCES

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

REFERENCES

1. Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. Milbank Q. 2005;83:457-502.
2. Dhagat P, Coan J, Ganguly A, Puetz C, Silvestri D, Madad S. Enhancing healthcare preparedness: lessons from a tabletop exercise on highly pathogenic avian influenza (HPAI). Trop Med Infect Dis. 2025;10:47.

Table 1 – SWOT analysis of infectious threat preparedness at Santa Maria Local Health Unit

Strenghts	Weaknesses	Opportunities	Threats
Effective internal communication	Lack or inadequacy of isolation rooms and waiting areas	Training of human resources	Uncooperative patients/ language barriers
Availability of Personal Protective Equipment	Lack of training for non-clinical staff (e.g., security guards, administrative, and cleaning)	Establishing and rehearsing procedures and internal circuits	Ineffective communication with other health teams and institutions (delay in referring suspected patients)
	Lack of protocol awareness among clinical staff	Creating signage and isolation flowmaps	
	Isolation circuits are poorly defined	Sharing experience and best practices between units	
	Scarcity of human resources		

Miguel ARCANJO TEIXEIRA*,1, Maria SANTOS *,1, Maria Margarida PAIXÃO 1

on behalf of the Local Unit of the Infection Prevention and Control and Antimicrobial Resistance Program – Northern Lisbon Branch.

* Co-first authors.

1. Unidade de Saúde Pública Francisco George. Unidade Local de Saúde Santa Maria. Lisbon. Portugal.

✉ **Autor correspondente:** Maria Margarida Paixão. maria.paixao@ulssm.min-saude.pt

Recebido/*Received*: 01/07/2025 - **Aceite/*Accepted*:** 04/12/2025 - **Publicado *Online*/*Published Online*:** 08/01/2026

https://doi.org/10.20344/amp.23612