

Optimisation of Antidote Emergency Preparedness: A Risk-Based Approach

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BACKGROUND

Globally antidote preparedness for both acute cases and mass casualties has been identified as a major challenge. Small nations especially islands, tend to face additional risks due to logistics and size.

The healthcare system must ensure timely availability of antidotes in the right quantities whilst weighing in the financial burden.

AIMS

- (i) To perform a **risk assessment** of antidote availability and accessibility in Malta through the application of different methods for data collection and analysis, and
- (ii) To provide **guidelines and recommendations** for optimisation of antidote emergency preparedness in the local scenario.

METHODS

Phase 1: Data Collection and Risk Identification

Data was collected on antidote availability and accessibility through:

- (i) Vertical audits of eight antidotes over a three-year period (June 2020 – June 2023)
- (ii) On-site observations at the central procurement unit and two acute general hospitals
- (iii) Meetings with healthcare professionals in the field of antidotes

Thematic analysis was performed for risk identification (Figure 1).

Phase 2: Validation and Analysis of Identified Risks

A focus group was established for the validation of identified risk themes and discussion of risk management strategies.

Validated risk themes were inputted into colour-coded qualitative risk matrices developed for each antidote.

Phase 3: Development of Guidelines and Recommendations

Validated risk themes were ranked according to focus group prioritisation.

The top three risk themes identified as being of the highest threat in the local scenario were selected for the development of guidelines. Recommendations were developed based on thematic analysis results.

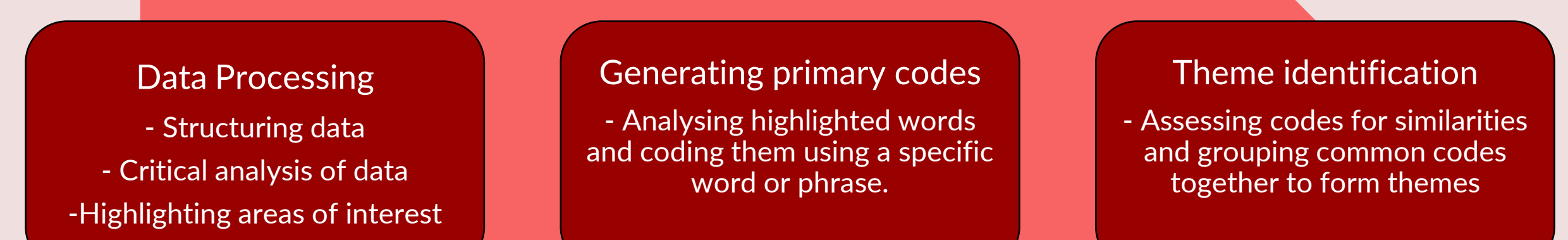


Figure 1: Process of Thematic Analysis

RESULTS

- **Thirteen risk themes** were identified, and all were validated by a nine-membered expert focus group.
- Guidelines were developed (Table 1) to address the top three risk themes identified as being of highest threat in the local scenario: (i) Problematic sourcing, (ii) Inadequate antidote stocking, (iii) Lack of national strategic plan.
- Five main recommendations were developed from the thematic analysis:

- ✓ Formalisation of an **official antidotes list and database**
- ✓ Development of **common standardized procedures** for the handling of antidotes. **Training programs** should be set up for all key personnel involved in the handling of antidotes and mass casualties
- ✓ Development of an **evaluation tool**

- ✓ Setting up a **team to assess and review** the management of antidotes in practice and provide a regular feedback report for improvement to the working Antidote Committee
- ✓ Establishing **cooperation agreements** at local, European and global level to facilitate the availability, accessibility, and usability of antidotes in a **timely and organised** manner

Table 1: Prioritised risk themes and guidelines developed for emergency preparedness optimisation

High Priority Risk Themes	Developed Guidelines
Problematic sourcing of antidotes	Guideline for Optimisation in the Procurement of Problematic to Source Antidotes
Inadequate stocking of antidotes	Guideline on Stocking of Antidotes
Lack of national strategic plan	Guideline for Optimisation in the Transparency, Communication and Record Keeping on Local Antidote Availability

CONCLUSION

Study highlights need for a better coordinated national strategy in the management of antidote emergency preparedness in Malta. This can be achieved by an ongoing evaluation process of the management and operational activities aimed at encouraging effective improvement in antidote availability and emergency preparedness. The developed guidelines seek to harmonise the processes involved in managing emergency preparedness based on risk management principles.