

# Building resilience into the Icelandic hospital network: A conceptual framework

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# Introduction

- Multidimensional role of hospitals in disasters:
  - First responders
  - First receivers
  - Unique role in treatment of injury and illness
- Dramatic changes in provision of health care in the 20th century
  - Increased complexity of systems
- Public expectations

# Aim

- To reach an understanding of the Icelandic hospital network's vulnerabilities and its interdependencies
- To formulate a conceptual framework for enhancing its resilience.

# Objectives

- To illustrate vulnerabilities and/or resilience of the Icelandic hospital network
- To formulate a conceptual framework for building resilience into the hospital network.

# Methodology

- Case study
- Application of Pressure and Release Model
  - (Wisner, Blaike, Cannon and Davis, 2004)
- Systems analysis
- Creation of a conceptual model

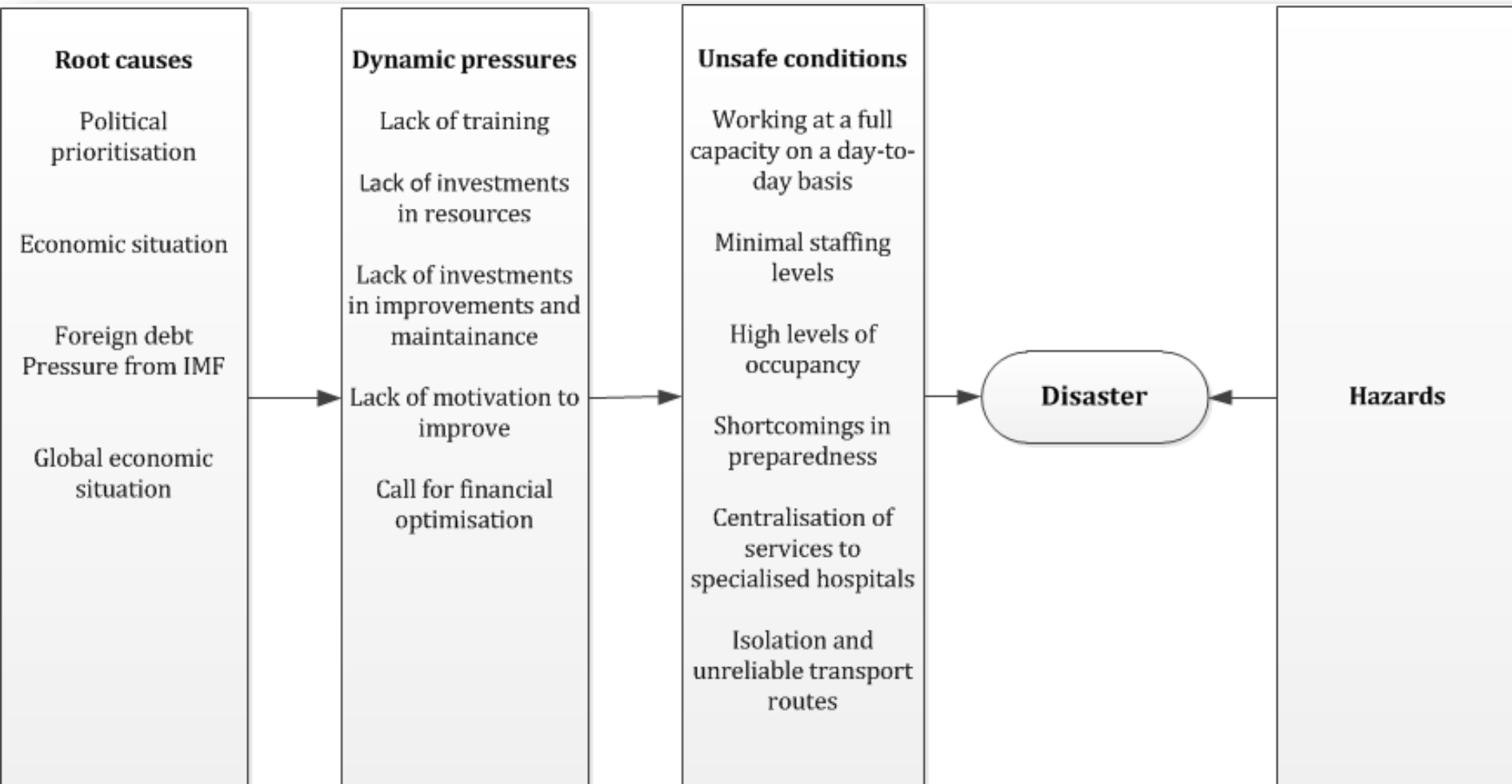
# Vulnerability

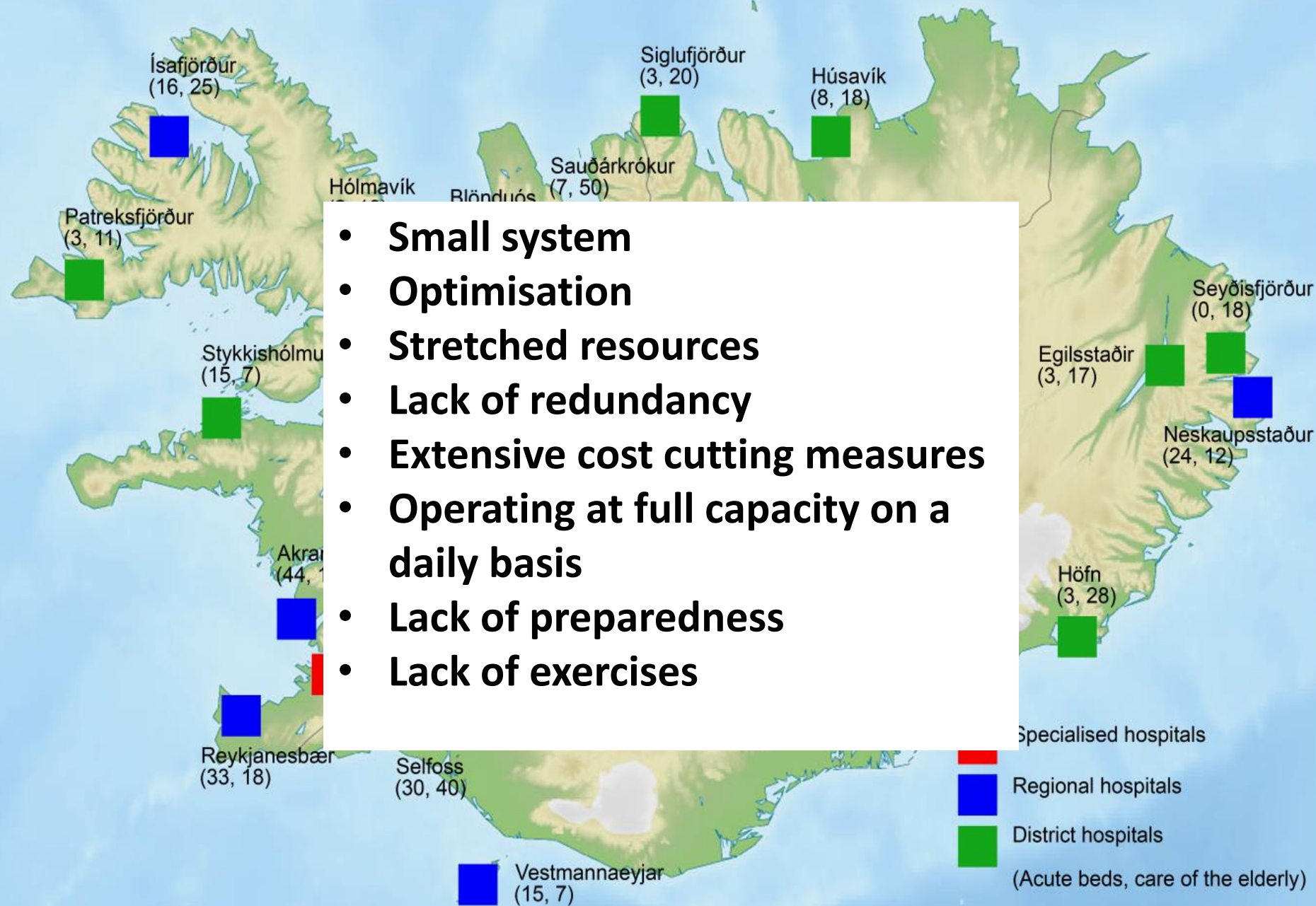
- Unique mission
- Essential to the community
- Size and complexity of operations
- High levels of occupancy
- Dependency on critical infrastructure/key resources
- Operating at a near full capacity on a day to day basis
- Occupants likely to need help
- Presence of hazardous materials

# Resilience

- Autonomous
- Self-referential

# PAR model - Wisner et al. (2004)

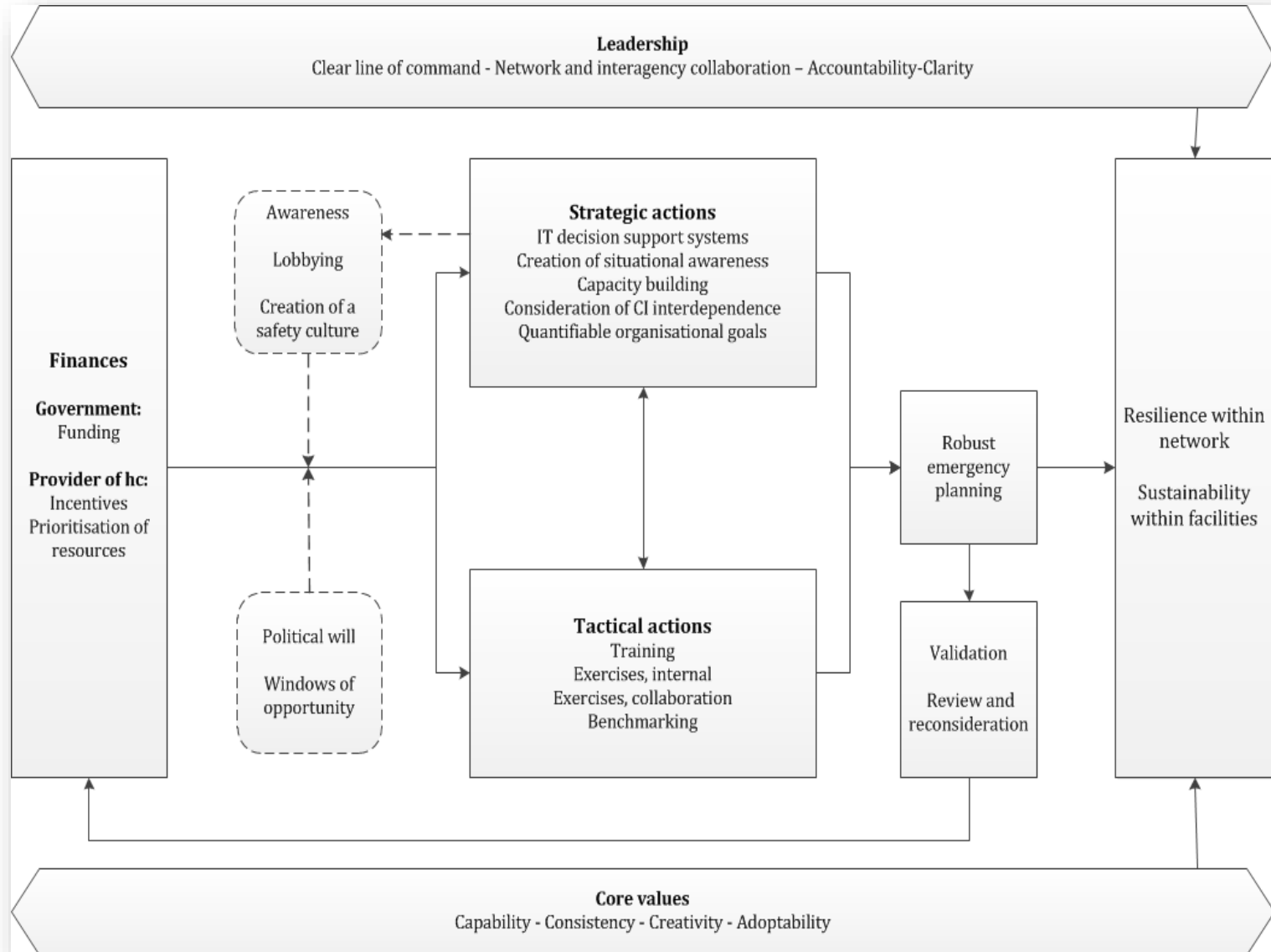




- **Small system**
- **Optimisation**
- **Stretched resources**
- **Lack of redundancy**
- **Extensive cost cutting measures**
- **Operating at full capacity on a daily basis**
- **Lack of preparedness**
- **Lack of exercises**

■ Specialised hospitals  
■ Regional hospitals  
■ District hospitals  
 (Acute beds, care of the elderly)

# Conceptual model





# Conclusion

- Icelandic hospital network a vulnerable system
- Increased resilience an achievable goal
- Further research
  - A wider scale approach
    - Holistic view of the Icelandic health care system
  - Standards of resilience
    - Surge capacity
    - Crisis standards of care
  - Critical infrastructure/key resources interdependency

# References

- Wisner, B., Blaike, P., Cannon, T. and Davis, I., 2004. *At Risk. Natural Hazards, people's vulnerability and disasters*. 2<sup>nd</sup> ed. Routledge: New York.