



Policy Proposal on

# Resilient Health Systems in the European Union

A conceptual framework

Brussels, April 23rd 2017

**Authors:** Kitti Almer, Maren Arnold, Anja Dekanski, Moritz Dillmann, Hanna Marla Frentz, My Fridell, Anja Köhler, Nils Lieberknecht, Katrine Sønderborg, Marie Caroline Vermund

**Tutor:** Rok Hrzic

**Topic Manager:** Joost Verbeek

## **STUDENT FORUM MAASTRICHT**

Student Forum Maastricht (SFM) is an annual student conference held at the Maastricht University Campus in Brussels. The conference is organised by students from Maastricht University in cooperation with different partner organisations. The participants are under- and postgraduate students from all over Europe with diverse academic backgrounds. Based on problem statements provided by European Commission representatives, they develop policy proposals for pressing topics within the Commission. In this process the students receive input and insights from experts from NGOs, academia and the business sector relating to the topic. The 2017 edition of SFM took place from April 19<sup>th</sup> to 23<sup>rd</sup>. For more information on Student Forum Maastricht, please visit: [www.student-forum.eu](http://www.student-forum.eu)



## Executive summary

While it is widely recognized that effectiveness and accessibility are key aspects of health systems, the concept of resilience is still under development in the European Union. Recognizing that national health systems are interconnected creates a need for a harmonized conceptualization of health system resilience on the European Union level. Therefore, this proposal suggests common definition of resilience in health systems as: *the ability of a health system to retain core functions that pursue the defined aims despite the threat or impact of a risk either through prevention or adaptation.*

Moreover, this proposal introduces a framework of health system resilience based on the six building blocks of the World Health Organization, which are: governance, finance, information, health workforce, service delivery, and medical products, vaccines and technology (WHO, 2007). The framework suggests key indicators and guiding questions that should be prioritized in order to build and strengthen resilience in a health system. The key indicators and guiding questions touch upon the six building blocks' ability to retain the core functions of a health system and their aims, which are: improved health, responsiveness, social and financial protection, and universality and accessibility. The framework suggests having strong and effective regulatory, preventative and responsive bodies that contribute to a resilient health system.



## Introduction

During the last decade, health systems of the Member States (MS) of the European Union (EU) have encountered several challenges. These include demographic change, rising prevalence of chronic diseases, financial volatility, and increasing migration of health care professionals with consequent workforce shortages. It is of clear relevance for our societies that health systems retain their ability to continuously pursue their long term functions and aims despite the impact or threat of different risks. They must face these threats with the use of efficient resource allocation and maintain the accessibility for the population without intermediate failure in order to stand for the common values and principles in EU health systems (European Council, 2006).

In 2014, the European Commission (EC) released a Communication concerning the effectiveness, accessibility and resilience of European health systems, and provided numerous ideas to build an EU agenda. However, the Communication mainly elaborates on the improvement of the effectiveness of health systems of MS, whereas suggestions regarding resilience remain comparatively vague.

The common values and principles in EU health systems provide a basis for a unified analysis of resilience applicable to all MS. Moreover, a conceptualization of resilience and a corresponding framework could function as a set of recommendations for national policy making in pursuit of resilient health systems. On the other hand, the extant interconnections between health systems of EU MS also create an urgent need for a harmonized understanding of these concepts if the project is to succeed. Therefore, it is worthwhile to think about resilience of health systems on an EU level in addition to national levels.

In this proposal we first provide our insights and definition of resilience. Then, we briefly summarize the main function of a health system and major risks it faces. The core of this proposal is a framework of guidelines with the overall goal to improve resilience of health systems for all MS of the EU. The framework consists of concrete indicators for resilience as well as an explicit explanation why we decided to include them. Finally, the proposal discusses the role the EU plays in the implementation of areas of health policy that face critical governance and stewardship challenges.

## Defining resilience in health systems

In the literature, resilience is defined in various ways. Different research fields infuse the concept with various perspectives, with different domains taking centre stage. The following chapter provides a brief overview of the main research definitions of resilience, and provides a discussion of our conceptualization of resilient health systems.



In ecological systems, Holling (1973) defines resilience as “the ability of a system to absorb external stresses”. A broad definition in the context of organizational studies is provided by Wood (2000), who defines resilience as “a systems capability to create foresight, to recognize, to anticipate, and to defend against the changing shape of risk before adverse consequences occur”. In more recent discussions regarding risk analysis and risk management, Haines (2009) defined resilience as “the ability of systems to withstand a major disruption within acceptable degradation parameters and to recover within an acceptable time and to composite cost and risks”.

In our view the above definitions are somewhat incomplete when attempting to operationalize them for assessing resilient systems. Firstly, they lack a systematic approach, and secondly stress only the return to a previous stable state, but do not contemplate possible future developments that lead to further improvement of systems.

This proposal defines resilience in health systems as: *the ability of a health system to retain core functions that pursue the defined aims despite the threat or impact of a risk either through prevention or adaptation.*

In order to implement the proposed definition it is necessary to substantiate the four components of this definition, namely: health system, functions, aims, and risks. By doing so, the particularities of the context need to be highlighted. Therefore, the definition above is applied to the explicit problem statement of resilience of health systems in the EU proposed by the EC.

The World Health Organization (WHO) defines a health system as a system consisting of all organizations, people and institutions producing actions whose primary intent is to promote, restore or maintain health. The core functions of health systems are: governance, finance, information, health workforce, medical products, vaccines and technology, service delivery, and resource generation. These functions have to fulfill the following aims:

- improved health (level and equity),
- responsiveness,
- social and financial protection,
- universality and accessibility.

To complete the substantiation of the components the risks of a health system are highlighted. We define risk as “a measure of the probability and severity of adverse effects and can be assessed only for a specific threat scenario at any given time”. If we apply this definition of a risk to the proposed definition of resilience in health systems, it becomes evident that risks endanger core functions pursuing the defined aims. In addition, it is necessary to differentiate between long- and short-term risks. The key



risks for health systems that we identified include substantial political shifts, demographic change or altered burden of diseases.

## Health systems resilience framework

This section makes use of the WHO's "Six Building Blocks" framework in order to identify key indicators that should be prioritized to build and strengthen resilience in health systems (WHO, 2000). Each indicator relevant to resilience can be assessed through the recommended questions. The definition of each building block is provided by the WHO framework.

### **Governance (stewardship)**

Governance is involved in ensuring that strategic policy frameworks exist and that they are combined with effective oversight, coalition-building, the provision of appropriate regulation and incentives, attention to system-design, and accountability.

#### *Indicators:*

Policy capacity, regulation and system design is essential to resilience as it identifies goals, responsibility and accountability, increases transparency and outlines the priorities necessary for an appropriate health system structure.

- Does the governance structure have the policy capacity to address the threat of- or impact of risks to the health system?

Intelligence and oversight can assure resilience through monitoring and research systems that can identify vulnerable groups and support the responsiveness of the health system.

- Does the governance structure have the capacity to oversee and control the functioning of the health system?

Collaboration and coalition building is essential to resilience as it guarantees integrity and supports the accessibility and efficient performance.

- Does the governance structure have harmonized standards to enable collaboration and coalition building among stakeholders in the health system?

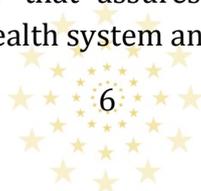
### **Finance**

A good health financing system raises adequate funds for health, in ways that ensure people can use needed services and are protected from financial catastrophe or impoverishment associated with having to pay for them.

#### *Indicators:*

Adequate funding sources, risk pooling and cost-control are essential to resilience because it determines the effectiveness, efficiency and equity of health financing systems.

- Is there a national strategy that assures independent, sufficient and stable funding mechanisms of the health system and coverage of all citizens?



Accountability mechanisms can ensure resilience through transparency and effective use of resources.

- Is there a method for measuring the effectiveness of resource allocation, e.g. HTA and economic evaluations that can ensure financial transparency and sustainability?

### **Information**

A well-functioning information system is one that ensures the production, analysis, dissemination and use of reliable and timely information on health determinants, health systems performance and health status.

#### *Indicators:*

National information systems can ensure resilience by investigating, communicating and containing events that are of risk to public health security. It tracks performance that can indicate where to improve and allocate resources in order to prevent and minimize possible risks.

- Is there a well-functioning information system that enables monitoring of ongoing performance, summarizes and harmonizes collected data and ensures accessibility?

National surveillance and response capacity can ensure resilience by detecting and responding to health related risks.

- Is there a surveillance and public health system that is equipped with up to date technologies and dedicated personnel that can be a part of international defense against risks?

Communication channel can ensure resilience by reaching the population in times of impact of or threat of a risk.

- Is there an effective communication channel that reaches people in risk of, with and after illness or other health related risks?

### **Health workforce**

A well-performing health workforce is one that works in ways that are responsive, fair and efficient, to achieve the best health outcomes possible, given available resources and circumstances.

#### *Indicators:*

Evidence based reform and performance is essential to resilience because through monitoring and evaluating vulnerable aspects of the health system are identified that affects budget planning, health workforce and training programs

- Is there an institutional framework that builds the resource capacity to enable evidence based reforms and assigns responsibility and accountability for acting upon evaluations?

Labor market influences resilience through fluctuations of the health workforce in a given country.



- Is there a system monitoring the movement of health workers within the county and between countries as well as a strategy to address workforce-related challenges (e.g. shortages)?

### **Service delivery**

Good health services deliver effective, safe, quality personal and non-personal health interventions to those who need them, when and where needed, with a minimum waste of resources.

#### *Indicators:*

A sudden increase in demand for health services can have a cascading effect throughout the rest of the health system by overloading its resources, leading to the system's collapse unless appropriate measures are in place.

- Is there a national strategy for short- and long-term increases in demand, e.g. natural disasters and demographic changes?

A failure in the provider network severely restricts access to care by disrupting the flow between levels of health care (e.g. general practitioner → hospital).

- Does the health system have geographical contingencies in referral systems, e.g. diverting the flow of patients towards unaffected regions?

A failure in infrastructure and logistics, which include material necessities of providing care, and transport and communication capabilities, can in short order stop all service provision in a health system.

- Are there emergency strategies to ensure a continuation of material provision, transport and communication under all circumstances?

### **Medical products, vaccines and technology**

A well-functioning health system ensures equitable access to essential medical products, vaccines and technologies of assured quality, safety, efficacy and cost-effectiveness, and their scientifically sound and cost-effective use.

#### *Indicators:*

Transparency on prices, international trade agreements and capacity to set and negotiate prices can ensure resilience through financial sustainability, social and financial protection and equity between citizens and member state citizens.

- Is there a sustainable pricing and trade agreement with the industry that is transparent to own citizens and member state citizens?

Reliable manufacturing practices and quality assessment of priority products can ensure resilience by protecting the overall health of citizens, by minimizing side-effects and the misuse of financial resources.

- Is there regulation and quality measures on drug testing, ingredients, storage, distribution, production of drugs and technology?



Effective provision, supply, storage and distribution systems can contribute to a resilient health system by minimizing wastes, being prepared to supply citizens in a crisis and by ensuring accessibility and universality.

- Is there a national strategy for supplying health care in case of emergency and increasing prices on medical equipment and drugs as well as incentive structures for research and innovation that reflects the current and future burden of disease?

Guidelines on rational and scientific use of medicines and technologies can ensure resilience through prevention by increasing patient safety, reduce resistance in drugs and assure adherence.

- Are there updated guidelines for similar and evidence-based procedures and strategies for the prescription of drugs and usage of technology?

## Discussion

The explicit role of the EU in the healthcare sector of its MS is reported in Article 168 of the Treaty on the Functioning of the European Union (2012): “The EU mostly complements and supports the work that goes on in individual EU countries on issues where coordination, cooperation and exchange of information, knowledge and best practice is the best way forward”. An EU-wide definition for resilience fosters a common understanding of the term and provides the base for future collaboration on assessing resilience in health systems. The framework contributes with an EU-guideline for examining resilience for health systems in the EU.

### *Limitations*

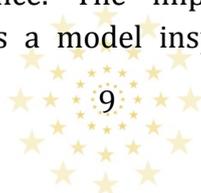
The framework is based on the six building blocks from WHO’s framework on health systems. This poses a limitation as the framework gives attention only to certain aspects of health systems, potentially leaving out important indicators of resilience.

Furthermore, this framework is an EU-level recommendation for assessing resilience, whereas individual MS could and should apply the framework while taking their national context into account. Especially the aspect of governance is reliant upon values and norms, which is why it can be interpreted in many different ways across the member states.

### *Future perspectives*

A more tailored framework on resilience is needed to make it more useful for MS. This demands further research on resilience in national and EU wide contexts and therefore appropriate support for research in resilience.

On this basis, the EU could encourage the creation of a network of national experts or competent authorities on resilience. The importance of resilience calls for a collaboration between MS, such as a model inspired by the EUnetHTA framework



(EUnetHTA, 2008), that can provide a forum for cooperation and consultation on guidelines and health resilience assessment projects across nations.

## **Conclusion**

This proposal defines resilience in the context of health systems in the EU and lays out a framework for its assessment. The framework provides key indicators and guiding questions that can be used by the MS of the EU as broad recommendations on how to assess resilience in their health system, taking into consideration their national contexts and further elaborating and prioritizing indicators specific to their health system.



## References

Consolidated version of the Treaty on the Functioning of the European Union [2012] OJ C 326

EUnetHTA Work Package 8. EUnetHTA Handbook on Health Technology Assessment Capacity Building. Barcelona (Spain): Catalan Agency for Health Technology Assessment and Research. Catalan Health Service. Department of Health Autonomous Government of Catalonia; 2008.

Haimes, Y. (2009). On the definition of resilience in systems. *Risk Analysis*, 29(4), 498-501. doi:10.1111/j.1539-6924.2009.01216.x

Holling, C. (1973). Resilience and stability of ecological systems. *Annual Review of Ecology and Systematics*, 4(1), 1-23. doi:10.1146/annurev.es.04.110173.000245

Woods DD. (2005). Creating foresight: Lessons for resilience from Columbia. In Farjoun, M., Starbuck, W.H. (eds). *Organization at the Limit: NASA and the Columbia Disaster*. Malden, MA: Wiley-Blackwell.

World Health Organization (2000) *The World Health Report. 2000, Health Systems: Improving Performance*. Geneva: World Health Organization: 1-44

World Health Organization (2007). *Everybody's business : Strengthening health systems to improve health outcomes : WHO's framework for action*. Geneva: World Health Organization.