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**Strengthening  
resilience: a  
priority shared by  
Health 2020 and  
the Sustainable  
Development Goals**





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## Abstract

Resilience is at the core of the WHO European policy framework for health and well-being – Health 2020 – and the United Nations Sustainable Development Goals. Despite resilience having become a buzz-word of late, its concept is often misunderstood. This publication illustrates the three levels of resilience (individual, community and system) and their implications for health. It also describes four capacities of resilience – absorptive, adaptive, anticipatory and transformative – which can be applied at all three levels. The publication expands on the WHO publication, Building resilience: a key pillar of Health 2020 and the Sustainable Development Goals. Examples from the WHO small countries initiative.

## Keywords:

RESILIENCE, PSYCHOLOGICAL  
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## Aims of the publication

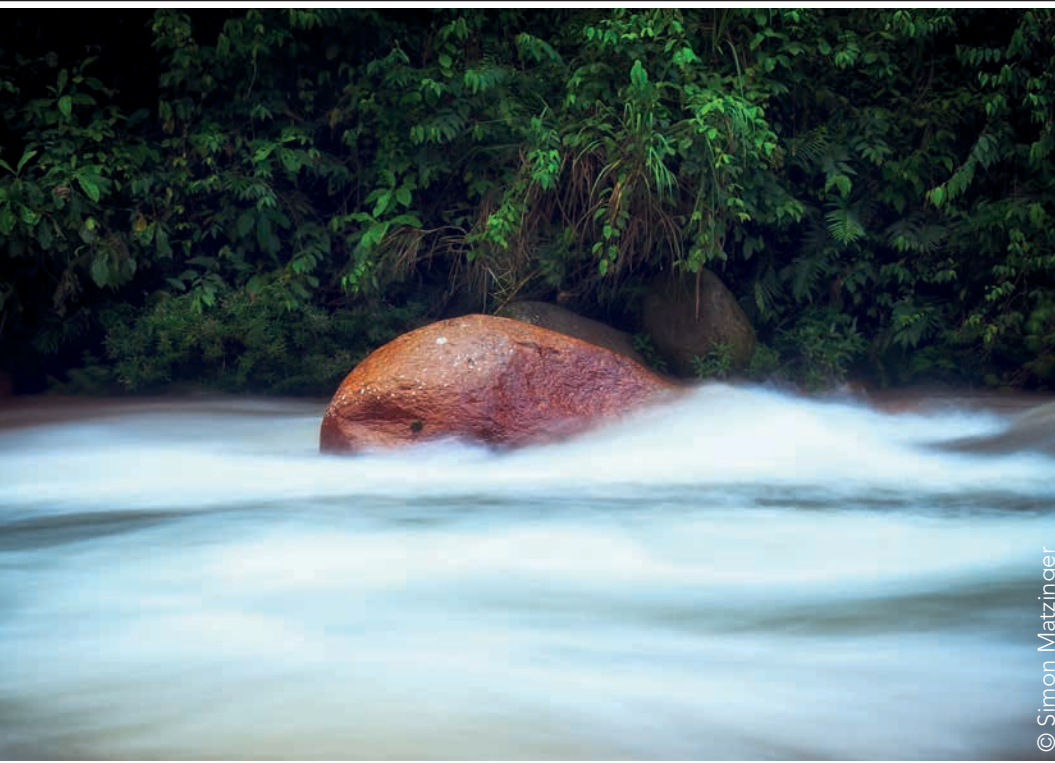
Nowadays, the concept of resilience is being used increasingly in academia, among professional bodies, in business, by human rights and civil society organizations and in a wide range of policy sectors. The concept may run the risk of over-exposure and being used as fashionable buzz word; the risk is that once the fashion passes, the concept may be quickly abandoned. Strengthening individual-, community- and system-level resilience is far too important for effective health interventions, and therefore such a risk must be avoided. In the health field, strengthening resilience is to form part of policies and programmes designed to promote an holistic and sustainable approach to individual and community health and well-being. To foster lasting and meaningful action to strengthen resilience to improve health and well-being, it is vital to be clear about its particular significance. This is what this publication sets out to achieve.

Since the endorsement of Health 2020 (1), the topic of resilience has been particularly present on the agenda of the meetings of the WHO small countries initiative (2–5). This publication builds and expands on the discussions held, and outcomes achieved, at those meetings. In particular, it expands on a recent publication of the WHO Regional Office for Europe, entitled *Building resilience: a key pillar of Health 2020 and the Sustainable Development Goals. Examples from the WHO small countries initiative* (6). It aims to shed light on the importance of strengthening individual-, community- and system-level resilience for population health and well-being outcomes. The publication maintains that strengthening resilience is crucial in order to make progress towards the implementation of both the Health 2020 targets and the Sustainable Development Goals (SDGs).

The publication has three crucial aims: first, to provide a comprehensive review of the literature showing the significance of resilience for health and well-being outcomes; second, to ensure that strengthening resilience and developing supportive environments are an integral part of current and future processes to align national and subnational health plans with the Health 2020 policy framework; and third, to emphasize that such processes should impact on resilience-building and fully exploit the many beneficial synergies between Health 2020 and the SDG agenda.

## Issues covered

The rationale behind Health 2020's priority area 4 – strengthening resilience and a supportive environment for health and well-being – is outlined and explored in section 2 of the publication, which includes a review of the relevance of resilience for population health and well-being. Different levels of resilience and types of resilience capacity, as currently portrayed in the scientific literature, are summarized in the sections that follow. Strengthening resilience characterizes and is involved in some way in all the actions recommended to achieve the SDGs; thus, the way in which resilience is referred to in the SDGs is also briefly explored. Finally, the document concludes with two annexes. One contains answers to frequently asked questions about resilience and the second describes the four major types of resilience capacity presented in the current literature.



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## 1. What do we mean by resilience?

Various definitions of resilience can be found in the scientific literature. Notwithstanding their differences, they all point to the fact that resilience is related to processes and skills that result in good individual and community health outcomes, in spite of negative events, serious threats and hazards (7–10). More recently this definition has been broadened to include the desire and urgency to strengthen the resilience of social systems, including health (11,12).

In the health field the concept of resilience was originally referred to in terms of children and young people, but has since been broadened to incorporate adults and elderly people (13). Disciplines with a focus on children (such as developmental psychology) conducted many studies and discovered that resilient young people possess the problem-solving skills, social competence and sense of purpose that enable them to cope with stressful situations (10,14). Research has shown that these capabilities in children and adolescents help them to rebound from setbacks, thrive in the face of poor circumstances, avoid risk-taking behaviour and generally continue to lead productive lives (10,15–17).

Another discipline that played a strong role in the early studies on resilience and its impact on health and well-being was traumatology. Here, the focus was mainly on adulthood and old age (18). The results of these studies showed that adult response to stress is very much influenced by the type of interaction individuals have with each other and the settings in which they live. These factors are of meaningful significance to victims of trauma. Adult response also depends on factors associated with the reliability of the resources available to them. This relates not only to material resources, but also to the support available to them in the web of social networks on which they rely (specifically victims of trauma). The latter may include cultural and religious organizations, self-help groups and other community and societal assets (13, 18–22).

It should also be noted that resilience has a very prominent role in essentially all of the SDGs (23), whereby it is positioned mainly at system level. System-level resilience originated in studies in the field of ecology and ecosystems (24). It has now expanded in many fields and policy sectors, as explored in more detail throughout the publication (see in particular subsection 1.2).

## 1.1 Resilience at individual and community levels

The American Psychological Association defines individual-level resilience as the process of adapting well in the face of adversity, trauma, tragedy or threats. It also includes coping with significant stress caused by problematic and toxic relationships in the family or at the workplace and the capacity to bounce back from difficult experiences (25). Similarly, community resilience is seen as the ability of social groups to withstand and recover from unfavourable circumstances. In the literature, community resilience is usually associated with social relationships and the activation of local resources that enable communities to cope with, counteract and anticipate unhealthy stressors (26,27).<sup>1</sup> The latter may include social and economic stressors such as poverty, natural disasters, isolation and other unfavourable circumstances. Community assets such as level of solidarity and mutual trust among its members, quality of social networks and other salutogenic resources have proven to be protective and promoting factors to health and well-being (28).

As for individual and community resilience, there is now widespread agreement that resilience is not a given personal or community, unmodifiable characteristic. Rather, it is the result of a developmental process that can become stronger over time, according to circumstances (9). A number of resilience-related studies have looked into the characteristics of people and communities and the factors that allow them to manage problems effectively and bounce back after adversity. They have shown that the capability of individuals and communities to cope successfully in the face of significant adversity develops and changes over time (21,26,27).

Health 2020 points out that building resilience is shaped by the availability of supportive environments (1). This means that interventions aiming to strengthen resilience are more effective when supported by environments that promote and protect population health and well-being (29). Supportive environments are essential for people to increase control over the determinants of their health. Back in 1986 the WHO definition of health promotion already referred to enabling people to increase control over and improve the determinants of their health. Indeed, creating supportive environments is one of the five

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1 Another important information source on this subject is a publication on building resilience in health systems prepared by Professor Lino Briguglio and Dr Natasha Azzopardi-Muscat for the fourth high-level meeting of the WHO small countries initiative (held in Valletta, Malta, June 2017).

action domains of the Ottawa Charter for Health Promotion (30). WHO thus has a strong legacy in terms of promoting the importance of both supportive environments and resilience to enable effective delivery of health and well-being outcomes. This is firmly incorporated into Health 2020's priority area 4.

The notion of being in control is intrinsically linked to individual-, community- and system-level resilience. For example, the level of control (or lack of it) that a person has over her/his life has been shown to be a key factor in the social determination of health and health inequities (20,31,32). The concept of control has been identified as one of the major factors in determining access to resources that protect and promote health. It can be traced back to Amartya Sen's theory on the freedom and the capabilities required for a long and healthy life (33). Sen shows that lack of control and powerlessness experienced by individuals and communities are the fundamental causes of inequities in health observed in different population groups (33). These findings were confirmed in the final report of the Global Commission on the Social Determinants of Health (2008) (31) and in the European review of the social determinants of health and the health divide (2013) (32).

## 1.2 System-level resilience

As mentioned earlier, this level of resilience is very much prioritized within the SDGs. In the literature, system resilience is defined as the capacity of a system to absorb, adapt, anticipate and transform when exposed to external threats – and/or to forecast shocks that bring about new challenges and opportunities – and still retain control over its remit and pursuit of its primary objectives and functions (24). Resilient systems develop the capacity to absorb, anticipate or recover from shocks, while adapting and transforming positively their structures and means of operating (34).

In terms of **system resilience**, there has been much debate and recommended action, particularly as result and lessons from the Ebola virus disease outbreak in West Africa (35). Strengthening system resilience is seen instrumental in order to: better tackle current and future patterns of ill health; create conditions for the protection and promotion of health and the reduction of health inequities; and increase preparedness in dealing with unexpected risks for population health (36,37).

Strengthening system resilience is particularly dependent on the capacity of a given system to manage internal and external factors that have an influence on its development (38). These factors include all the elements that influence policy-making. The WHO Regional Office for Europe published an interesting study of the ways in which health systems counteract shocks, such as the current economic crisis (that is still hitting several countries at the time of writing). The analysis shows different types of resilience capacity in absorbing and adapting to the impact of the crisis and also in transforming practices to cope better with change and uncertainties (39).

Within the SDGs, system resilience is not just a reactive capacity (e.g. the capacity to absorb and adapt to shocks such as a natural disaster, climate change, a sudden unexpected infectious disease pandemic, or a financial crisis). In order to achieve the SDGs, system resilience ought to also be a proactive capacity. The need for this capacity is advocated by the United Nations General Assembly resolution that adopted the SDGs. The declaration points out that in order to address the challenges of the years ahead, a new approach is needed, whereby **resilience-transforming capacity** is key. In its 13th item, the declaration states that “sustainable development recognizes that eradicating poverty in all its forms and dimensions, combating inequality within and among countries, preserving the planet, creating sustained, inclusive and sustainable economic growth and fostering social inclusion are linked each other and are interdependent” (23:6). It is clear that to achieve such massive change, transformative resilience capacity has to become a fundamental characteristic of policy-making.

Resilience-transforming capacity is also important in the health field. It may relate to the capacity of the system to transform some obsolete practices, or to redesign the provision of some services and public health programmes, required as a result of demographic changes or medical and technological breakthrough. Resilience at system level can be strengthened by the introduction of new financial mechanisms to increase the economic sustainability of the system to anticipate and counteract possible future crises (36). An increased role of health promotion and health literacy can be instrumental in strengthening resilience for individuals and communities, resulting in better access to services and enabling their more beneficial use. Here, resilience-transforming capacity could foster financial incentives applicable to a wide range of policies and supportive conditions for health and well-being (38–40).

### 1.3 Specifications when using the term resilience

When the term resilience is used in the health field, three specifications should ideally always be made. First, there should be clarity about the nature of the risks or the causes of the vulnerabilities that resilience is meant to address. Second, the level or context in which the term is used should be clearly specified (that is, individual-, community- or system-level resilience). Third, efforts should be made to clarify the type of processes that are intended to be used to strengthen resilience; for example, evidence should be provided that such processes and measures do indeed impact on resilience, including how and at what level. Unwanted side-effects (if any) as a result of the measures undertaken should also be highlighted. Needless to say that such processes and measures can differ according to the level of resilience that is to be strengthened (individual, community or system).

Thus, in order to be meaningful in operational terms, resilience should always be specified in terms of:

- (i) the causes of the vulnerabilities that the strengthening of resilience should tackle;
- (ii) the context or level of application of the measures identified to implement the strengthening of resilience; and
- (iii) the type of – and impact from – the measures and processes advocated for to positively impact on resilience.

## 2. The role of resilience in Health 2020

Health 2020 is the WHO health policy framework developed to assist European countries in their individual and collective pursuits of health, equity and well-being. It was adopted by the WHO Regional Committee for Europe on 12 September 2012 during its 62nd session in Valletta, Malta. Its strategic objectives are twofold: to improve health for all, and to reduce health inequities through improved leadership and governance for health. In addition, Health 2020 identifies four cross-cutting priority areas for action, of which one specifically refers to resilience (1):

- (1) investing in health through a life-course approach and empowering people;
- (2) tackling Europe's major health challenges (noncommunicable and communicable diseases);
- (3) strengthening people-centred health systems, public health capacity and emergency preparedness, surveillance and response;
- (4) creating resilient communities and supportive environments (1).

Of the four priority areas, perhaps the least understood or most underestimated is priority area 4.

Health 2020 states that "building resilience is a key factor in protecting and promoting health and well-being at both the individual and community levels" (1:131). It specifies that the development of supportive environments is instrumental in building resilience. According to Health 2020, collaboration among policy sectors and the full engagement of civil society are crucial for the development of supportive environments and for strengthening resilience; this is encapsulated within the framework by the terms whole-of-government and whole-of-society, to describe the relevant approaches (1).

Health 2020 priority area 4 is essential for modernizing and increasing the performance of health services and public health programmes. Several studies have revealed that the impact of these programmes can be hampered by overusing the deficit model, as it is known: an approach that focuses solely on the deficits of individuals and communities (41). Deficits are measured in negative terms, usually estimated on the basis of mortality and morbidity data. Such an approach is very prominent in interventions that are based only on the assessment of what does not work in a given community. It grossly overlooks what actually works

well and the potential health assets of the population (41). Resilience is one such important asset.

It has been argued that people as well as social systems do not develop because of their deficits but rather on the strength of their assets and resilience capacities (42). Asset-based approaches are required to complement the deficit model, with the emphasis being on **complementing**, rather than replacing (43). This is how strengthening resilience and community health assets are conceptually embodied in the Health 2020 policy framework (1).

Health 2020 specifies that in order to flourish, individual and community health requires resilience to be strengthened and supportive environments developed. Supportive environments offer people protection from factors that can threaten their health, as well as enabling them to expand their capabilities and self-reliance (1,30,44–47). Such environments constitute the basic conditions necessary to ensure health protection and promotion at individual and population levels, despite threats and hazards. The development of supportive environments for population health and well-being can include both sectoral and intersectional measures. Political action, focusing on implementing pro-health policies and regulations can also be referred to as constituting supportive environments.

Thus, supportive environments may include (for example) tobacco control legislation, or bans on advertising unhealthy junk food to children. Such environments can result from the use of financial incentives (for example, to increase the availability and affordability of healthy food, or the adoption of safety measures at the workplace) or disincentives (such as raising prices or limiting availability of unhealthy products). In addition, the provision of cultural, educational and local community resources can shape a wide range of environments that empower individuals to take control of their health and improve their physical and living environments (44). All these factors create conditions for resilience to flourish. In summary, Health 2020 recommends that action aimed at strengthening resilience should go hand in hand with the development of supportive environments.

### 3. The role of resilience in the SDGs

In adopting resolution A/RES/70/1, *Transforming our world: the 2030 agenda for sustainable development* on 25 September 2015, the United Nations General Assembly made its mark in history (23). The SDGs call for global mobilization to tackle issues of widespread public concern. The elimination of poverty, hunger, climate change, disease, food insecurity, and environmental degradation, the strengthening of preparedness for man-made and natural disasters, and the sustainability of the planet's ecosystems are some of the global challenges included in the 2030 agenda and its 17 SDGs and 169 associated targets (23,48).

The overall perspective of the 2030 Agenda is totally in harmony with the conceptual background and priority actions recommended in Health 2020 (1,23). The SDGs have greatly increased the profile of resilience. Sustainable development requires sustainable societies, and resilience comprises a key element. It implies the search for – and deployment of – structural processes and scientifically robust solutions to address the vulnerability of the planet. All this requires resilience-building at various levels (49,50). SDG 1 envisages building the resilience of the poor and those in vulnerable situations, as well as reducing their exposure and vulnerability to extreme climate-related events and other economic, social and environmental disasters. SDG 2 calls for sustainable food-production systems and the implementation of resilient agricultural practices. SDG 9 relates to industry and innovation and calls for building resilient infrastructures. SDG 11 focuses on sustainable cities and communities and advocates action to make cities and human settlements inclusive, safe, resilient and sustainable. SDG 13 calls for strengthening resilience and capacity for adapting to climate-related hazards and natural disasters in all countries. SDG 14 aims to strengthen the resilience of marine and coastal ecosystems (23,49). Thus, the SDGs call for resilience mainly at the system level.

The implementation of frameworks such as Health 2020 at the national and subnational levels of policy-making is crucial to achieving the SDGs (1,23). Strengthening resilience and developing environments supportive for population health and well-being are essential to achieving both the health-related SDGs and those pertaining to other sectors (23). Ensuring healthy lives and promoting well-being for all, at all ages, is the specific focus of SDG 3. In reality, building resilience and environments supportive of population health and well-being



is instrumental in achieving all of the SDGs (6,51). Resilience is not explicitly mentioned in the wide-ranging SDG 3 (to ensure healthy lives and promote well-being for all at all ages) or its 13 targets (23). Nevertheless, it is increasingly recognized that building community resilience and supportive environments for health and well-being (as Health 2020 priority area 4 strongly advocates (1)) is also indispensable in relation to SDG 3 (23). Population health can be regarded as a precondition for, and an enabler as well as an outcome of, sustainable development.

In conclusion, resilience as advocated in the SDGs (23) requires resilient citizens and communities. It also requires resilient systems to deal with potential vulnerabilities, shocks and disturbances by developing **absorptive, anticipatory** and **adaptive** capacities (34). Furthermore, the achievement of the SDGs also requires a proactive approach to resilience, usually referred to as transformative capacity. These capacities (outlined in Annex 1) date back to the pioneering work of Holling, among others, in the 1970s, advocating the need to build resilience in communities and systems to preserve and improve ecosystems and pursue positive change (6,24,51). Resilience is a key factor in the SDGs and a central mechanism for making progress in addressing them (52–54).



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## 4. The role of health policy

Strengthening resilience and developing supportive environments for population health and well-being is part of effective practices in curative, rehabilitation, preventive and health-promotive action undertaken by the health system and public health programmes. Building resilience is key for effective prevention, rehabilitation and healing processes and in tackling health inequities (31–33). Much of the research into how having a sense of control affects health and well-being has either overlooked or underestimated the role of the health system and public health programmes in this domain (55). Indeed, effective public health programmes can create conditions that help people avoid health hazards and, in turn, builds personal and community capacity to promote health and well-being (56).

High-performing health systems and effective public health policies and practices can therefore enhance resilience at the three levels (individual, community and system or societal) (8). For example, in providing appropriate health care and social support to patients with a noncommunicable disease (NCD), considerations should be given to the social and physical settings where they live. There are excellent examples that show that health systems, through their stewardship function, can work with other sectors (such as housing and social services) to increase the ability of patients to cope with their chronic and degenerative conditions (57). Thus, helping patients with a debilitating NCD – for example, by rearranging their home furniture and facilities, and/or providing an easy remote phone link with emergency health services – has proven to be effective for patients to maintain their self-image, mental health and motivation (58,59).

These practices, facilitated by health systems, increase patients' sense of control. This strengthens their resilience and, thus, has positive effect on their health and well-being (60,61). Health promotion – as defined by WHO as the process of enabling people to increase control over and improve their health – is of particular importance here. Health promotion action is clearly linked to strengthening resilience (30). Health promotion (along with its link with resilience) not only embraces actions to strengthen individual skills and resilience capabilities, but also includes actions to change unhealthy social, environmental and economic conditions and toxic power relationships, to create opportunities for people and communities to promote and protect

their health. Resilience-building and the promotion of health are indeed social and political processes (30).

Resilience-strengthening is an integral part of what it is increasingly referred to as person-centred care, which requires a rather radical reconfiguration of all aspects of health service planning and delivery. The idea is that all activities should be centred on the individual's health needs, expectations and resources. Health-related personnel, patients and their families are partners in care working together towards a common goal; namely restoring health and pursuing well-being.

A recent review of the benefits of person-centred care has shown the many benefits and its impact on resilience (63). They include improvement of: patients' and their families' satisfaction, by ameliorating the patient experience throughout the process (from diagnosis, referral, hospitalization, discharge, periodic check-up, etc.); work satisfaction among the health workforce; treatment compliance, as patients are involved in co-designing and self-managing their treatment and healing processes; health outcomes for patients, as they become more resilient, more in control of their life and more confident to be able to manage long-term chronic conditions; social community capital, by building networks and support around patients and their families; and more efficient use of primary care, by enhancing patients' ability to self-manage. The same review revealed the reduction in: rates of medical errors; the number of hospital re-admissions; length of stay in hospitals; need for primary and secondary care; and cost to both the health care system and patients (62).

Strengthening resilience is very much the result of a relational process. Research has revealed that health and welfare professionals who take the time to listen to the medical and nonmedical concerns of their patients, and who are prepared to advocate for them and seek solutions appropriate to their needs, are highly valued by their patients (10). Health professionals with these characteristics are instrumental in resilience-building processes. Improved communication and empathy between health personnel and patients is central in strengthening resilience. This is also an area that needs innovation and improved practices. Health care is often strongly dominated by complex professional jargon that disempowers patients and negatively impacts on their resilience and treatment compliance.

In 2010 WHO extended the concept of patient-centred health care to people-centred health care. According to WHO, health care should focus on the needs and expectations of people and communities rather than on diseases. In particular, WHO states that **people-centred** health care extends the concept of patient-centred care to individuals, families, communities and society (64). Whereas patient-centred care is commonly understood as focusing only on the individual seeking care for a particular health issue, people-centred care also includes paying attention to the health of people in their communities and their crucial role in shaping health policy and the delivery of health services. The link with developing supportive environments and strengthening resilience is therefore self-evident.

The issue of resilience and its importance for health and well-being should not be just confined to health care. Health is about people and communities. Effective health policy should therefore have an impact on people and community health and well-being. Resilience-strengthening should be an integral part of health policy action. It is for this reason that Health 2020 points out that building resilience is a key factor in protecting and promoting health and well-being at individual and community levels. The policy framework states that “resilient communities respond pro-actively to new or adverse situations, prepare for economic, social and environmental change and deal better with crisis and hardship” (1:20). Thus, strengthening resilience is not just a desirable side-effect of health policy, it is indeed an integral part of it.

In short, a health policy that functions well not only ensures equitable and universal access to a good range of curative and preventive services; it also searches for better social and environmental conditions that would allow people more control over their lives and, thus, would improve their health and resilience (61). In practice, this means that effective health policies should ensure that people have access to high-quality health services; that as results of the services received they are more empowered and resilient; and that they are better able, as well as better motivated and equipped to maintain, protect and promote both their own health and that of the communities in which they live. This is still far from common practice in many countries. Nevertheless, there are ample opportunities for health policy to advocate, enable and mediate action towards better health conditions (55). In order to achieve the latter, health policies need to be a strong partner in what is nowadays called **co-production of health** (1,65).

## 5. The role of other sectors

The activities, practices and policies of other sectors can either help or hinder efforts to strengthen resilience. This opens opportunities for the health policy and a wide range of other sectors to coordinate and even integrate their efforts, depending on the national or subnational context (66,67). The *Tallinn Charter: health systems for health and wealth* refers to this as the stewardship function of health systems (67). The health-in-all-policies and health-equity-in-all-policies concepts take centre stage in Health 2020 (1). They are becoming an increasingly important element in national and subnational policies (66). The adoption of pro-resilience and pro-health policies in sectors such as environment, education, social security, housing, urban design, transport, agriculture and labour policy, among others, is highly desirable. These are policy areas in which the health sector needs to develop appropriate know-how, professional skills and accountability mechanisms, as well as a legislative framework to facilitate the adoption of pro-health policies in non-health sectors.

As already explained, resilience is a combination of assets, capabilities and positive adaptation that enables people to cope with adversity and protect their health and well-being. Thus, it cannot be strengthened without coherent efforts and the development of supportive environments in all relevant policy sectors. In order to achieve the objectives of Health 2020, countries need to foster joint action between health and other sectors, as well as full engagement of citizens and communities. Such action needs to be supported by structures and mechanisms that enable collaboration. Health 2020 names this **governance for health** (1,68). Pro-health action in policy sectors other than health would contribute to building favourable environments to strengthen the resilience of the population to cope with hazards that have an impact on health and well-being.

WHO has a long legacy of working with a wide range of policy sectors, which can be traced back to its Constitution (1948) and the *Declaration of Alma Ata* (1977) (30,69,70). Developing supportive environments for population health and well-being is among the key priorities of different WHO action plans and programmes of the WHO Regional Office for Europe. Working with non-health policy sectors is prioritized in WHO programmes and action plans, including environment and health, health systems development, programmes on communicable and

noncommunicable diseases, prevention and health promotion, and health equity. The WHO Regional Office for Europe has a long and important tradition of ensuring that population health is central to the development of policies that are not exclusive to the health sector.

An excellent example of how two sectors cooperate to strengthen action and achieve their respective goals is illustrated through the WHO Environment and Health Programme (71). There is clear evidence that exposure to environmental risk factors and its impact on health vary among population groups, depending on demographic, socioeconomic, ethnic and spatial determinants (72). An example of an approach to building resilience is the WHO seven-country initiative (73).<sup>2</sup> The overall aim of this initiative is to protect population health from climate change by building capacity for assessing vulnerability, impact and adaptivity and, thus, to strengthen the health systems of the countries. The initiative has enabled the development of national health-adaptation strategies or action plans to counter the impact of climate change, and facilitated awareness-raising activities and the sharing of knowledge and experiences in this complex field (73,74). Institutional capacity to adapt and to prevent the negative impact of climate change on health is linked to the creation of supportive environments that strengthen resilience at individual, community and societal levels.

Another example of the need to engage other sectors in addition to the health sector is in the complex domain of tackling health inequities. It is well known that strengthening resilience and equity cannot be the concern of the health sector alone. Rather, as pointed out by Nobel Prize winner Amartya Sen, “it must come to grips with the larger issue of fairness and justice in social arrangements, including economic allocations, paying appropriate attention to the role of health in human life and freedom” (75:659). These issues are addressed in the recommendations of both

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2 The seven-country initiative covers four different geographical and climatic zones: arid and semi-arid water-stressed areas (Kazakhstan and Uzbekistan); high mountainous areas (Kyrgyzstan and Tajikistan); Mediterranean countries (Albania and The former Yugoslav Republic of Macedonia); and a sub-Arctic region in the northern Russian Federation (Arkhangelsk Oblast and Nenets Autonomous Okrug). Each country has experienced climate-related exposure, such as extreme events, water scarcity, glacier melting and permafrost thawing. By drawing upon the experiences of countries already affected by climate change, this initiative offers a firm foundation for future action by providing examples of the priorities, challenges and emerging solutions utilized by the seven countries participating in the project (73).

the final report of the WHO Commission on Social Determinants of Health (2008) and that of the *Review of the social determinants of health and the health divide in the European Region* (2014) (31,32).

Other examples can be found in the area of education. Research reveals many interactions between the education and health sectors that are very important in the context of Health 2020 priority area 4 and its focus on resilience and supportive environments (76). As schools play a significant role in the development of children for at least 10–15 years of their lives, these institutions have the opportunity to influence children’s resilience capacities, as well as those of their families and the wider community (77). The concept and practice of what are commonly called health-promoting schools are based on this rationale (78). Policies and programmes that aim to develop and sustain health-promoting schools contribute to the creation of powerful, supportive environments for resilience-building. Schools and community action – backed by coherent national and subnational policies – can make a difference in increasing the resilience and well-being of children with disabilities and their families (79). It has been shown that the multisectoral approach that characterizes a health-promoting school is effective in building resilience and reducing health inequities when they are included as a key element in education and health and human-rights policies, and granted sufficient time to produce results (80).

Other examples can be found among the lessons learnt from the WHO Healthy Cities movement and from the rediscovered role of cities in building resilience and sustainable development (1, 81). A global report was published recently by the Rockefeller Foundation on the issue of creating resilient cities to align with and advance the urban agenda to achieve the SDGs (82). In the environment and urban planning sectors, many studies have provided evidence that equitable access to parks and green open spaces increases social contact and a sense of belonging (83). People living in safe, walkable areas are more likely to know their neighbours, show more solidarity, be more trusting, and have higher levels of participation in politics and better relationships with formal governmental institutions, compared with people living in other areas (83,84). Urban planning and cultural and social policies affect levels of isolation and connectedness. Evidence from a meta-analysis of 148 studies on social relationships and mortality risk shows that individuals with strong social relationships have higher levels of resilience and are likely to live longer than those with lower levels (85).

The issue of strengthening resilience was addressed at a number of major intergovernmental meetings held just prior to and following the adoption of the 2030 sustainable development agenda in September 2015 (23). The United Nations Development Programme (UNDP) also addressed the issue of resilience during the 2017 Istanbul Development Dialogues (86,87). Through this initiative, the UNDP explores ways of building resilience strong enough to face the risks associated with and adversities caused by natural disasters, climate change, poverty, conflicts and socioeconomic crises. Resilience-strengthening is pursued at various levels with the aims, in particular, of: (i) reducing the likelihood of these risk events occurring; (ii) reducing their impact when they do occur; and (iii) helping people to recover quickly from their impact.

In conclusion, policy sectors, such as education, transport, energy, tourism, environment, and economic development are investigating how policy on strengthening individual, community and system resilience would affect progress in their respective domains (50,88–90). Both the SDGs (23) and Health 2020 (1) recommend working to strengthen the three levels of resilience outlined in this publication. To avoid a disruption of resilience, it is crucial to increase policy know-how to develop intersectoral pro-resilience practices and interventions in a coherent, systematic way.



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## Conclusions

There is solid evidence that resilience is a useful concept for planning and delivering 21st century health services and public health programmes. In order to maximize the usefulness of the concept, it is argued that action for strengthening resilience needs to be based on a holistic view of the context in which individuals, communities and systems cope with problems and attempt to protect and promote health. As such, action designed to strengthen resilience should be planned, and not just as a way to react to health threats. It should also – most importantly – be proactive and create the conditions for resilience to flourish at individual, community and system levels.

The three levels of resilience described in this publication (individual, community and system) are key for ensuring progress in the implementation of Health 2020 and the SDGs. Resilience cannot run the risk of being disregarded, misinterpreted or used in an unintended manner.

This publication has pointed out that there are at least four types of resilience capacity that can be applied to individual, community and system levels (91–93). They are usually referred to as absorptive, adaptive, anticipatory and transformative resilience capacities. Annex 1 provides additional explanation of each of these. In order to summarize even further the content of this publication the most common questions asked about resilience are outlined in Annex 2.

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## Annex 1 Types of resilience capacity

Type of capacity	Description
Adaptive	The ability of individuals, communities and systems to adjust to disturbances and shocks.
Absorptive	The ability to absorb and effectively cope with disturbances and shocks; the capacity to manage and recover from adverse conditions, using available skills, assets and resources.
Anticipatory	The ability to predict and reduce disturbances and risks by means of proactive action to minimize vulnerability.
Transformative	This capacity applies mainly to systems. It refers to the ability of systems to transform their structures and means of operating to better address change and uncertainty. It is the ability to develop (new) systems that are more suited to new conditions. This capacity is very important when, for example, ecological, economic, technological, cultural or demographic changes render the existing policies and practices obsolete or untenable.

## Annex 2 Frequently asked questions about resilience

Question	Answer
What is meant by resilience?	Traditionally resilience has been related to processes and skills that result in good individual and community health outcomes in spite of negative events, serious threats and hazards. Strengthening resilience is a key element in both Health 2020 and the SDGs.
Why is resilience important in Health 2020?	Resilience is important because it is a key factor in protecting and promoting health and well-being at the individual, community and system or societal levels.
Is resilience important in the SDGs?	Resilience is a key factor in the SDGs and a central mechanism for making progress in pursuing the sustainable development agenda.
At what level should resilience be strengthened in Health 2020 and the SDGs?	In order to make progress in both Health 2020 and the SDGs, resilience should be strengthened at three key levels: individual, community and system.
Are supportive environments important for resilience?	The development of supportive environments is instrumental in building resilience. Resilience should always be seen in relation to the availability of such environments. Supportive environments include health-protective and -promoting resources in both the social and physical settings in which people are born, grow and age. They also include cultural, economic and political resources necessary for the health and well-being of the population.
Do factors that strengthen individual and community resilience change over the life course?	Yes they do. Factors that promote and protect resilience unfold over the life-course. Resilience-building mechanisms can vary, depending on life stages and situations. For example, there is evidence to show that in childhood and adolescence, family-related processes determine resilience to a large degree. In adulthood and later life, it may be affected by entrenched patterns of coping acquired over time, physiological stress responses and social relationships.

Question	Answer
Are there other concepts that relate to resilience?	The field of study known as salutogenesis is very much linked to resilience. Studies in this area aim to explain why, in the face of adverse life circumstances, some people cope remarkably well, while others fail and develop pathogenic outcomes. Another concept is social capital, broadly defined as community resources that help create trust, solidarity and resilient social organization. The notion of control is also important for resilience-building. Creating conditions that enable people to gain control over their lives and destinies is essential in interventions that aim to strengthen resilience.
Do health systems and public health programmes have a role in building resilience?	Strengthening resilience forms part of effective practices in curative, rehabilitation, preventive and health-promotive action undertaken by the health system and public health programmes. Augmenting people's control over their lives and destinies is perhaps the most important impact that health systems and public health can have in strengthening resilience. This is crucial for effective prevention, rehabilitation and healing processes.
Is resilience importance also in other policy sectors beyond health?	Resilience frameworks are important and increasingly used in various policy sectors; in particular, in the environment, climate change, energy, ecology, urban planning, social and economic development, agriculture and poverty-reduction fields.



The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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Resilience is at the core of the WHO European policy framework for health and well-being – Health 2020 – and the United Nations Sustainable Development Goals. Despite resilience having become a buzz-word of late, its concept is often misunderstood. This publication illustrates the three levels of resilience (individual, community and system) and their implications for health. It also describes four capacities of resilience – absorptive, adaptive, anticipatory and transformative – which can be applied at all three levels. The publication expands on the WHO publication, Building resilience: a key pillar of Health 2020 and the Sustainable Development Goals. Examples from the WHO small countries initiative.

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