Understanding the health and tourism nexus

World Health Organization
European Region

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ABSTRACT

This report explores the multifaceted nexus between health and tourism within the WHO European Region, emphasizing the importance of sustainable tourism management for public health. It highlights the significant impacts of the coronavirus disease pandemic on tourism economies and health systems, underscoring the need for resilience, sustainability and inclusivity in future tourism development. The report discusses how tourism can promote health and well-being through stress reduction, physical activity and health tourism, while also addressing health risks such as infectious diseases, injuries and violence. It emphasizes the crucial role of robust health systems, international agreements and emergency preparedness in ensuring the health and well-being of tourists and host communities. The report also advocates inclusive and accessible tourism that removes barriers and promotes equity – particularly for women, Indigenous communities and individuals with disabilities. Ultimately, sustainable tourism development is presented as a driver for health and well-being, benefiting both tourists and local communities through nature-based solutions and balanced growth.

Keywords

PUBLIC HEALTH, TOURISM, SUSTAINABLE DEVELOPMENT, COVID-19, HEALTH PROMOTION, HEALTH EQUITY

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Abbreviations

AMR	antimicrobial resistance
COPD	chronic obstructive pulmonary disease
COVID-19	coronavirus disease
CVD	cardiovascular disease
EbA	ecosystem-based adaptation
ECT	Emergency Care Toolkit
EEA	European Economic Area
EHIC	European Health Insurance Card
EID	emerging infectious disease
EU	European Union
GBV	gender-based violence
GDP	gross domestic product
ICPT	International Code for the Protection of Tourists
IHR	International Health Regulations
ILO	International Labour Organization
ISO	International Organization for Standardization
IUCN	International Union for Conservation of Nature and Natural Resources
IVF	in vitro fertilization
LGBTIQ+	lesbian, gay, bisexual, transgender, intersex or queer
MERS-CoV	Middle East respiratory syndrome coronavirus
MNS	mental, neurological and substance use [condition]
NbS	nature-based solution
NCD	noncommunicable disease
NGO	nongovernmental organization
OECD	Organisation for Economic Co-operation and Development
PCA	protected and conserved area
$PM_{2.5}$	particulate matter with a diameter of 2.5 microns or less
PM_{10}	particulate matter with a diameter of 10 microns or less
polio	poliomyelitis
PTSD	post-traumatic stress disorder
SARS	severe acute respiratory syndrome
SCI	Small Countries Initiative
SDG	Sustainable Development Goal
SRHR	sexual and reproductive health and rights
STI	sexually transmitted infection
TDGDP	tourism direct gross domestic product
TTDI	Travel and Tourism Development Index
UV	ultraviolet

Executive summary

The WHO European Region is going through a profound societal transformation. The triple planetary crisis, demographic shifts, widening inequalities, geopolitical and economic uncertainty, technological transformation, growing pressures on science and public institutions, and the long tail of a global pandemic are reshaping many aspects of life, touching all people, all places and all sectors.

The complexities of current changes demand that health and well-being are approached as parts of a larger whole. Tourism, which accounts for more than 10% of global gross domestic product and constitutes one of the largest and fastest-growing sectors worldwide, is deeply entangled in these changes. Increasing mobility and connectivity of people – including in tourism – and, at the same time, immobility and disconnectivity are fundamental forces that shape health and well-being. Health considerations in and for tourism, however, have remained largely unexamined in a systematic or strategic way. Moreover, despite their many points of connection, the health and tourism sectors have rarely engaged in direct dialogue. This gap is especially striking given how frequently the health and well-being of people, communities and ecosystems depend on their interaction.

This publication attempts to bridge that gap. It is WHO's first comprehensive effort to explore the evolving and often overlooked borderlands between health and tourism. It assembles fragmented and neglected strands of research into a conceptual and evidence-based mosaic of where these sectors intersect and why those intersections matter. At the heart of this vision is a call for multisectoral collaboration, supporting policy-makers, practitioners and researchers in both fields to move beyond parallel approaches towards strategies that shape resilient, inclusive and sustainable tourism development for the health and well-being of people and the planet.

Tourism is increasingly recognized for its dual role in both promoting public health and challenging health systems that are not well prepared for varying and growing movements of people. While tourism fundamentally relies on the health and well-being of people, places and systems to thrive, this publication explores tourism not just as an economic engine but as a dynamic force for health promotion, health equity and health security. Examining evidence on topics ranging from mental well-being and health equity to pandemic preparedness and climate resilience, it reframes tourism as a determinant of health and well-being.

The report addresses the following key dimensions.

- The coronavirus disease pandemic – the most significant shared crisis for both health and tourism sectors in recent history – exposed their interdependence in stark terms, disrupting travel, straining health systems and reshaping societal priorities. Its effects remain visible across all countries in the WHO European Region.
- The health-promoting potential of tourism – including its role in mental health, well-being, social connection, physical activity and healthy ageing – is reviewed and contextualized.
- The public health impacts of tourism – including environmental pressures, inequities in access, labour conditions and disease transmission – are assessed critically.
- The influence of global tourism on health systems, from workforce demands to service provision in high-influx destinations, is explored.
- The opportunities presented by inclusive and sustainable tourism for health equity, community resilience and the well-being of all population groups – particularly those often left behind – are highlighted.

- Shared interests and joint solutions for future-oriented policy-making are identified, pointing to synergies in areas such as environmental sustainability, emergency preparedness and community-based development.

This publication underscores that health and tourism are not parallel sectors but deeply interconnected systems. In the context of WHO's second European Programme of Work 2026–2030, this alignment represents a strategic imperative: to create people-centred, future-ready societies where health and well-being are central to sustainable development, unlocking new pathways for countries to become just, humane and free societies in the face of complex global challenges. Rethinking health and tourism together is no longer optional but essential.

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1. Introduction

This publication marks a significant milestone for WHO: it is the result of the first comprehensive and integrative exploration of the complex and multifaceted interconnections between health and tourism. As such, it stands as a landmark effort – made possible only through the extraordinary contributions, expertise and collaboration of a diverse and committed group of individuals across borders, disciplines, sectors and institutions.

The aims of this report are to increase understanding of the nexus between health and tourism, and to provide evidence for policies, strategies and actions to strengthen these synergies in favour of sustainability. The need for this research was identified by the WHO Regional Office for Europe's Small Countries Initiative (SCI), in response to the severe consequences of the coronavirus disease (COVID-19) pandemic on health and tourism in these countries. The report therefore places special focus on the 12 SCI countries (Box 1).

Box 1. The SCI

The SCI is a network of 12 countries in the WHO European Region with 2 million or fewer inhabitants: Andorra, Cyprus, Estonia, Iceland, Latvia, Luxembourg, Malta, Monaco, Montenegro, North Macedonia, San Marino and Slovenia *(1)*.

The SCI is a laboratory for innovation. Since its inception in 2014, it has been the place where small countries can come together to find solutions to health-related needs and vulnerabilities. The SCI countries continue to face new challenges, such as the response to and recovery from COVID-19.

The objectives of the SCI are to:

- place health and well-being high on the key political agendas of small countries
- advocate the needs of small countries at the regional and international levels
- promote investment for health and well-being, leaving no one behind
- build a solutions platform for better population health and resilient health systems
- measure progress.

This report discusses the current state of research on the intersection of health and tourism, especially following the years of the COVID-19 pandemic, with the objective of guiding health policy and highlighting future, sustainable directions for tourism at regional, national and international levels. It explores the multiple ways in which health and tourism are entangled, and sets out opportunities for health improvements through tourism and sustainable forms of tourism.

The report comprises the results of a scoping review, which was undertaken with the objective of mapping the available literature on the topic of sustainable tourism and health, while identifying key concepts and gaps in the research. Data were obtained from a review of recent literature (more than 10 000 documents since 2000) published in English and German, and identified via the Cochrane Library, Google Scholar, the American Psychological Association database PsycNet, Embase, PubMed, JSTOR, the *Lancet*, the Data Dashboard and World Tourism Barometer of the World Tourism Organization (UN Tourism; formerly UNWTO), the WHO COVID-19 dashboard, the European Observatory on Health Systems and Policies publication database and the Web of Science database. Grey literature and reports from international organizations, and data and experiences provided by Member States and collaborators were also included. The scoping review was complemented by data from WHO, UN Tourism and the Organisation for Economic Co-operation and Development (OECD), and by information provided through informal interviews with SCI focal points and subsequent thematic analysis by the SCI Secretariat.

It should be noted that comprehensive, routinely collected, standardized and comparable data focusing on health and tourism in the WHO European Region are lacking; this limits the ability to draw generalized conclusions within the report. This is particularly true for differences in national health and tourism data collection, especially in small countries; data confidentiality issues and gaps in existing data; methodological issues such as the geographical area studied and the size of the study population; and the lack of reliability in calculations of disease prevalence or incidence rates.

To aid reader navigation, three categories of boxes are used throughout the publication: blue boxes provide general explanations of terms and definitions; green boxes present case studies from small countries; and yellow boxes highlight key messages at the beginning of each chapter (see Boxes 2, 3, 6, 8, 18, 26 and 28).

The scientific literature on the links between health and tourism needs to be interpreted with caution for several reasons.

- Global estimates of the occurrence of injury, infection and disease that may be related to travel and tourism are highly contextualized within the WHO European Region.
- Tourism has the potential to influence health from a variety of perspectives in relation to tourists themselves, to tourism workers or to residents in tourist destinations.
- The mutually affecting relationship between health and tourism is multifaceted and dependent on political, social, economic and environmental conditions, as well as the specific characteristics of individuals and their behaviours. For example, the risk of developing a medical condition abroad depends on the traveller's general health condition, preventive measures taken before or during travel (such as vaccinations, travel precautions, preventing heat and sun injuries, personal and food hygiene and so on), the prevalence of health risk factors in the particular location *(2)*, and compliance with health-related recommendations, less risky travel or more organized modes of tourism *(3)*.
- Health-care needs differ between individuals *(4)*.
- Data reflecting current risks and health-related threats and trends for travel and tourism are lacking, and there are research gaps regarding the benefits of tourism for health and the multiple ways to promote healthy, and therefore sustainable, forms of tourism. The COVID-19 pandemic created a surge in new travel-related research due to emerging risks that were not covered in the previous epidemiological evidence, while awareness of health issues is also changing tourism demand.
- Certain health benefits and threats are better documented than others. For example, many infectious diseases are notifiable: it is mandatory for health-care providers and laboratories to officially report cases. Similarly, it may be easier to link injury and accidents to specific tourism

activities or events and, thus, reporting may be more complete for these factors. Thus, although the scientific literature has a wealth of data that clearly describe the link between tourism and infection diseases, injury and road traffic accidents, evidence on noncommunicable diseases (NCDs) is sparse.

In writing this report, the best effort was made to identify and provide as much available information as possible to generate an overview of tourism and health in the WHO European Region, with a focus on SCI countries. Chapter 2 introduces the concepts of health and sustainable tourism development and considers their interlinkages. Chapter 3 highlights the impacts of the COVID-19 pandemic on tourism economies and trends in sustainable tourism development. Chapter 4 provides an overview of different types of tourism, and outlines benefits from tourism for health and well-being. Chapter 5 considers the public health of tourists and host communities, while Chapter 6 explores the health systems dimensions of tourism. Chapter 7 focuses on inclusive and accessible tourism for health and well-being, and Chapter 8 discusses sustainable tourism development as a driver for health and well-being. Finally, Chapter 9 sets out the main findings of the report, and presents key areas for countries to focus on in the future.

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2. The health–tourism nexus

Box 2. Key messages on the health-tourism nexus

- **Health and well-being are deeply interlinked within tourism and travel**. The interconnection between health and tourism is multifaceted, encompassing direct and indirect health impacts; the tourism workforce and businesses; safety and security related to travel; water and sanitation; food; hygiene conditions; and socioeconomic and environmental aspects affecting health and well-being in host communities.
- **Health and hygiene contribute to the competitiveness of a tourism destination**, and visitors often prefer locations with high health and hygiene standards. Recent studies show that promoting health and well-being for tourism workers and host communities has also received attention in local and international initiatives and guidelines to support economies, social protection and tourism as a source of employment and income.
- **Sustainable tourism management can nurture public health in general**, as conditions improve not merely for the tourist but also for the host population. Therefore, promoting sustainable tourism is an important factor to consider in public health policies, while improving health and well-being must remain a core objective of tourism strategies. Achievement of Sustainable Development Goal 3 on health and well-being requires progress on other Sustainable Development Goals – such as poverty reduction, nutrition, clean water and sanitation, sustainable energy and safer cities – that are also related to tourism.

2.1 Tourism and economic development

According to UN Tourism, “tourism is a social, cultural and economic phenomenon which entails the movement of people to countries or places outside their usual environment for personal or business/professional purposes” *(5)*. Such visitors are classified as tourists if their trip includes an overnight stay *(6)*.

Tourism is a major driver for economies and communities, creating jobs and livelihoods for millions. Tourism in the WHO European Region has often acted as a driver to promote economic development and employment, improving lives and creating bonds between people and societies. Prior to the COVID-19 pandemic, an increasing number of citizens in the Region travelled for leisure or business. Tourism increased significantly between 2000 and 2019, with the southern Mediterranean the most popular destination in the Region *(7)*. In 2019, tourism accounted for 7% of the world's exports and US$ 3.5 trillion in tourism direct gross domestic product (TDGDP) *(8)*.

2.2 The multifaceted interconnections between health and well-being, health system functioning, travel and tourism

In accordance with WHO's Constitution, governments acknowledge health as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" *(9)* and have pledged to secure and promote health as a fundamental human right. Health is central to sustainable development, national and international security, as well as tourism recovery for people, planet and prosperity *(10)*.

The interlinkages between health and well-being, travel and tourism are well established, tracing back to the very first types of tourism in humanity. Travelling to places that may provide health benefits has occurred for centuries – for example, for thermal therapy, which is still an important part of contemporary tourism *(11)*. However, the mutual relationship of health and tourism at the individual and societal level has never been systematically addressed in national and international policies, creating a reason to examine this nexus more closely. Similarly, the COVID-19 pandemic brought to light multiple opportunities to reconcile health and tourism under the broader objective of promoting sustainable development, relying on mutual benefits of sustainable tourism management, and safeguarding population and individual health and well-being *(12)*.

The health and well-being implications of today's globalized, diverse and multifaceted tourism industry go far beyond traditional intentions of individual relaxation through travel or temporary improvement of a patient's state of health *(13)*. Instead of limiting understanding of health and tourism to types of tourism for medical and wellness purposes, health and well-being should be viewed as deeply interconnected with tourism and travel: a healthy population is a precondition for a stable and functioning tourism economy, for travelling, for quality of life and for sustainable development in general. This means that infectious diseases, NCDs, and all facets of physical and mental health can affect the tourism sector and its workers, tourist choices and people's ability to travel and work, while travelling and exposure to different environments affect a person's health and well-being.

Moreover, this encompasses both direct and indirect impacts of health system functioning, related to availability and accessibility of high-quality health services; protecting the health and safety of the tourism workforce and businesses; safety and security related to travel; water and sanitation; food; hygiene conditions; and socioeconomic and environmental aspects affecting the health and well-being of individuals in host communities *(14)*. Health systems that enable good health within tourism settings boost societies economically, socially and environmentally, while the same spillover effects can be observed for healthy societies, which are able to offer more competitive tourism products and build a healthier tourism sector *(15)*.

2.3 The importance of health on tourism preferences

In the post-pandemic era, health and safety – especially of the tourism workforce – have been recognized by UN Tourism as key elements of tourism recovery and transformation to build resilient societies and businesses through digitalization, innovation, sustainability and partnerships *(16)*. This also involves the sustainable management of high-quality health services, hygiene, security

and safety within the tourism sector – with particular focus on the long-term health effects on host communities and the tourism workforce *(17)*.

Moreover, health and hygiene contribute to the competitiveness of a tourism destination *(18)*. Increasingly, tourists recognize the importance of sustainable tourism and of the hygiene, safety, security, cleanliness, population density and availability of medical facilities in destinations *(8)*. Travellers tend to avoid countries in which they might encounter health risks, whereas good quality of health at a destination can increase international tourism arrivals *(19)*.

The second edition of the World Economic Forum's Travel and Tourism Development Index (TTDI) of 2024, which evolved from the Travel and Tourism Competitiveness Index series, includes safety and security, health, hygiene, and health-determining factors in its global development assessment. It notes that Europe provides the best enabling environments for the travel and tourism sector, including conducive business, safety and hygiene conditions, high-quality human resources and labour markets, and well-developed information and communication technology infrastructure *(20)*. It also highlights the largest average regional increase (of 10.4%) in air transport infrastructure in Europe between the 2021 and the 2024 index, and increasing competitiveness in the Balkans, eastern Europe and central Asia. However, it identifies ongoing pressures – such as conflicts, inflation, overcrowding, high levels of seasonality and short lengths of stay – as pressures on many destinations. It also notes a decline in labour productivity and labour shortages, with low sector wages, which all are important determinants of health and well-being. Table 1 shows that countries in the Region had the highest TTDI 2024 scores for safety and security (5.99) and health and hygiene (5.88), highlighting the importance of addressing safety and security as well as health and hygiene issues to foster a more resilient and sustainable travel and tourism sector.

Table 1. TTDI scores 2024 in Europe and Eurasia

Member States in the WHO European Region[a]		**Enabling environment**					**T&T policy and enabling conditions**			**Infrastructure and services**			**T&T resources**			**T&T sustainability**		
	TTDI rank	Business environment	Safety and security	Health and hygiene	Human resources	ICT readiness	Prioritization of T&T	Openness to T&T	Price competitiveness	Air transport infrastructure	Ground and port infrastructure	Tourist services and infrastructure	Natural resources	Cultural resources	Non-leisure resources	Environmental sustainability	T&T socioeconomic impact	T&T demand sustainability
Albania	66	4.55	5.98	4.90	4.54	4.90	5.19	4.56	5.00	3.23	3.33	3.01	2.17	1.29	1.52	4.91	3.27	3.43
Armenia	72	3.95	5.62	5.82	4.44	5.04	4.77	3.33	5.58	3.05	2.81	2.31	1.48	1.50	1.39	3.90	3.81	4.65
Austria	15	5.61	6.02	7.00	5.07	6.09	5.44	4.80	3.41	4.49	5.02	5.32	3.01	2.65	3.33	5.70	2.91	3.22
Azerbaijan	56	4.45	5.26	5.45	4.47	5.07	4.50	3.70	5.83	3.15	4.29	2.83	1.84	2.48	1.53	3.97	4.41	4.28
Belgium	23	5.53	5.87	6.62	5.09	6.12	4.03	5.23	3.17	4.35	5.36	3.12	1.91	3.16	3.14	5.42	3.99	3.50
Bosnia and Herzegovina	90	1.31	6.00	5.10	3.62	4.88	2.82	4.63	5.10	2.52	2.57	2.85	1.74	1.59	1.33	4.07	4.50	2.98
Bulgaria	40	4.53	5.73	6.43	4.59	5.70	4.52	4.73	5.22	3.53	3.54	3.38	2.82	2.10	1.84	5.44	4.80	3.27
Croatia	46	4.27	6.25	6.01	4.17	5.67	4.84	4.70	2.96	3.68	3.85	5.17	3.54	2.25	1.67	5.22	3.44	2.61
Cyprus	30	4.96	5.79	6.21	4.82	5.69	5.34	4.78	3.82	4.95	3.59	6.50	1.74	1.61	2.34	4.82	4.02	3.39
Czechia	33	5.16	6.35	6.70	4.64	6.01	5.13	5.06	4.40	3.68	5.01	3.66	2.01	2.26	2.25	5.26	3.01	2.74
Denmark	17	5.77	6.51	5.81	5.52	6.60	3.77	5.16	2.88	4.76	5.53	4.90	2.76	2.03	3.37	5.69	4.31	3.34
Estonia	36	5.55	6.29	5.56	5.32	6.42	5.70	4.15	4.29	2.82	4.63	3.90	1.60	1.85	1.43	5.31	4.45	3.10
Finland	20	6.00	6.56	6.05	5.54	6.38	4.48	4.71	3.29	4.26	4.41	3.44	2.41	1.81	3.56	5.84	5.19	2.92
France	4	5.35	5.78	6.20	5.02	6.22	4.93	4.75	3.18	5.49	5.31	5.03	5.41	6.25	5.07	5.89	3.15	3.22
Georgia	45	4.94	6.17	5.49	4.85	5.51	4.68	4.50	5.47	3.35	3.92	3.53	2.05	1.81	1.56	4.50	4.03	3.99
Germany	6	5.58	5.75	6.86	5.09	6.12	5.19	5.05	3.65	5.35	5.34	3.56	3.47	6.27	5.27	5.62	3.41	3.35
Greece	21	4.47	5.30	6.34	4.32	5.85	5.43	4.80	3.16	5.52	3.37	5.95	3.03	3.01	3.33	5.23	4.29	3.00
Hungary	37	4.65	6.26	6.29	4.44	5.82	5.36	4.71	4.68	3.68	4.94	2.71	1.97	2.20	2.57	5.43	3.71	3.15
Iceland	32	5.30	6.59	5.75	5.46	6.39	5.68	4.67	1.44	4.68	3.04	6.10	3.21	1.56	1.33	5.23	4.47	2.58
Ireland	24	5.59	6.11	5.68	5.32	5.91	3.78	4.67	2.87	4.98	4.33	4.55	1.98	2.48	4.18	4.94	3.86	4.34

Table 1 contd.

Member States in the WHO European Region[a]	TTDI rank	Enabling environment					T&T policy and enabling conditions			Infrastructure and services			T&T resources			T&T sustainability		
		Business environment	Safety and security	Health and hygiene	Human resources	ICT readiness	Prioritization of T&T	Openness to T&T	Price competitiveness	Air transport infrastructure	Ground and port infrastructure	Tourist services and infrastructure	Natural resources	Cultural resources	Non-leisure resources	Environmental sustainability	T&T socioeconomic impact	T&T demand sustainability
Israel	48	5.18	5.04	5.69	5.00	6.17	4.52	4.25	1.42	4.55	4.39	4.12	1.90	1.76	3.45	4.22	4.49	3.57
Italy	9	4.89	5.79	5.88	4.68	5.85	5.23	4.80	3.15	5.24	4.79	4.60	5.00	6.74	4.23	5.37	3.46	3.53
Kazakhstan	52	3.93	5.69	5.98	4.46	5.42	4.31	3.15	6.14	3.19	2.82	3.14	3.64	2.07	2.22	3.95	5.50	3.55
Kyrgyzstan	102	3.45	5.65	5.01	4.12	4.39	3.51	3.13	5.87	2.53	2.22	1.26	2.03	1.71	1.20	3.43	3.84	4.12
Latvia	65	4.57	6.05	5.79	4.80	5.90	4.39	4.33	4.73	3.08	3.75	3.20	1.59	1.25	1.53	5.04	3.19	2.76
Lithuania	44	5.08	5.94	6.45	5.25	6.06	4.35	4.09	4.94	2.94	4.47	3.56	1.60	1.66	1.58	5.26	4.50	3.16
Luxembourg	28	6.11	6.54	5.76	5.27	6.39	4.66	4.66	3.20	3.73	5.79	4.19	1.30	1.34	3.27	6.17	2.90	3.46
Malta	34	5.12	6.23	6.41	4.65	6.09	5.54	4.72	3.77	4.43	4.05	4.87	1.68	1.58	1.94	4.11	4.03	3.87
Montenegro	60	3.86	6.12	5.42	3.80	5.22	4.28	4.14	4.73	3.01	3.35	6.07	1.77	1.22	1.14	4.51	5.35	3.28
Netherlands (Kingdom of the)	16	5.76	6.18	5.79	5.23	6.51	4.70	5.21	2.87	5.43	6.33	3.30	2.55	2.84	4.08	5.55	3.37	3.12
North Macedonia	87	3.93	5.98	5.51	3.67	4.88	3.43	3.68	5.41	2.56	2.72	2.56	1.84	1.53	1.26	4.00	4.04	3.03
Poland	27	4.46	5.98	6.14	4.59	5.89	4.73	4.90	5.03	3.66	4.71	2.95	2.84	3.30	3.60	4.97	3.75	3.38
Portugal	12	4.97	6.55	6.17	4.72	6.02	5.14	4.90	3.63	5.29	4.35	4.62	3.39	4.42	3.88	5.20	4.76	3.26
Republic of Moldova	88	3.56	5.80	5.85	4.15	5.02	3.50	3.57	5.38	2.60	2.95	1.64	1.36	1.25	1.24	4.48	3.99	3.58
Romania	43	4.49	5.70	6.01	4.15	5.41	3.70	4.81	5.13	3.43	3.50	4.37	2.58	2.17	2.16	5.18	5.32	3.11
Serbia	68	4.19	6.10	6.02	4.34	5.56	3.72	4.50	4.95	3.39	3.51	2.45	1.59	1.72	1.72	4.09	4.31	3.39
Slovakia	54	4.68	5.85	6.34	4.60	5.78	4.77	4.19	4.57	2.25	4.26	2.84	2.20	1.88	1.77	5.80	3.56	2.61
Slovenia	42	4.79	6.50	5.74	4.80	5.84	5.67	4.94	4.23	2.26	4.72	4.87	2.53	1.62	1.53	6.00	3.65	2.05
Spain	2	4.92	6.14	5.99	4.75	6.05	5.73	5.01	3.60	6.06	4.92	5.46	4.95	6.64	4.81	5.39	4.25	3.34
Sweden	19	5.85	6.14	5.90	5.44	6.27	4.54	4.88	3.38	4.21	4.63	4.18	2.87	2.34	4.20	5.89	3.92	3.10
Switzerland	10	6.06	6.43	6.30	5.59	6.36	5.44	4.67	1.68	5.54	6.24	4.55	3.12	2.17	4.39	5.84	4.22	3.18
Tajikistan	99	3.60	6.08	4.71	3.69	3.39	3.21	2.65	5.90	2.38	2.94	1.63	2.37	1.46	1.14	3.93	4.66	4.46
Türkiye	29	3.55	4.96	4.85	3.52	5.29	6.12	4.16	5.19	5.50	3.72	3.40	3.50	4.96	4.23	4.18	4.32	3.10
United Kingdom	7	5.62	5.57	5.43	4.97	6.16	4.17	4.96	2.74	5.85	5.13	4.07	3.96	5.83	6.22	5.74	4.15	3.78
Uzbekistan	78	4.06	6.17	5.00	4.35	5.02	3.30	3.38	5.49	3.05	3.44	1.45	2.49	1.85	1.43	3.08	4.80	4.13
WHO European Region	–	**4.76**	5.99	5.88	**4.69**	**5.72**	**4.63**	**4.45**	**4.15**	**3.95**	**4.18**	**3.80**	**2.55**	**2.57**	**2.67**	**4.97**	**4.07**	**3.36**

Note: ICT: information and communication technology; T&T: travel and tourism.

[a] No data were provided for Andorra, Belarus, Monaco, Norway, Russian Federation, San Marino, Turkmenistan or Ukraine.

Source: World Economic Forum *(20)*.

2.4 Sustainable development in both health and tourism

Achievement of Sustainable Development Goal (SDG) 3 on health and well-being requires progress on other SDGs, such as those on poverty reduction, nutrition, clean water and sanitation, sustainable energy, and safer cities, as these are also related to tourism *(21,22)*. Conversely, a deterioration of economic, social or environmental factors erodes sustainable tourism, which might drag down health achievements *(23–25)*. Beyond the individual level, improving the sustainability of tourism management can nurture public health in general, as conditions improve not merely for the tourist but also for the host country. Therefore, promoting sustainable tourism is an important factor to consider in public health policies and, alongside this, improving health and well-being should be encouraged as a core objective of sustainable tourism development.

UN Tourism defines sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" *(26)*. The 2000 United Nations Millennium Declaration and the Millennium Development Goals mentioned tourism as a key pillar in job creation and a sector that would contribute to the eradication of poverty. The outcome document of the United Nations Conference on Sustainable Development – Rio+20 – in Rio de Janeiro, Brazil on 20–22 June 2012 defines sustainable tourism as a significant contributor "to the three dimensions of sustainable development thanks to its close linkages to other sectors and its ability to create decent jobs and generate trade opportunities" *(27)*. Subsequently, the United Nations 2030 Agenda for Sustainable Development, adopted in 2015, set out a transformative and inclusive strategy comprising goals and actions for sustainable tourism development that:

- supports the creation of jobs, and promotes local culture and products without disrupting ecosystems and local social fabrics;
- provides livelihoods for local communities, women, young people and Indigenous populations;
- serves as a vehicle for cultural exchanges, tolerance and peace-building; and
- has an important role in advancing many of the health-related SDGs *(28)*.

Well-managed, sustainable tourism can contribute, directly or indirectly, to all SDGs – particularly SDG 3 on health and well-being; SDG 8 on inclusive and sustainable economic growth; SDG 12 on sustainable consumption and production; and SDG 14 on the sustainable use of oceans and marine resources *(29)*. Tourism tax income and visitor fees collected in protected areas that are reinvested in health care and services can advance SDG 3 *(30)*. Many countries in the WHO European Region – including Cyprus, Estonia, Luxembourg, Monaco, Montenegro and Slovenia – have elaborated on the relationship between tourism and the SDGs within their voluntary national reviews, with more prominence given to economic and environmental dimensions of the goals *(31)*.

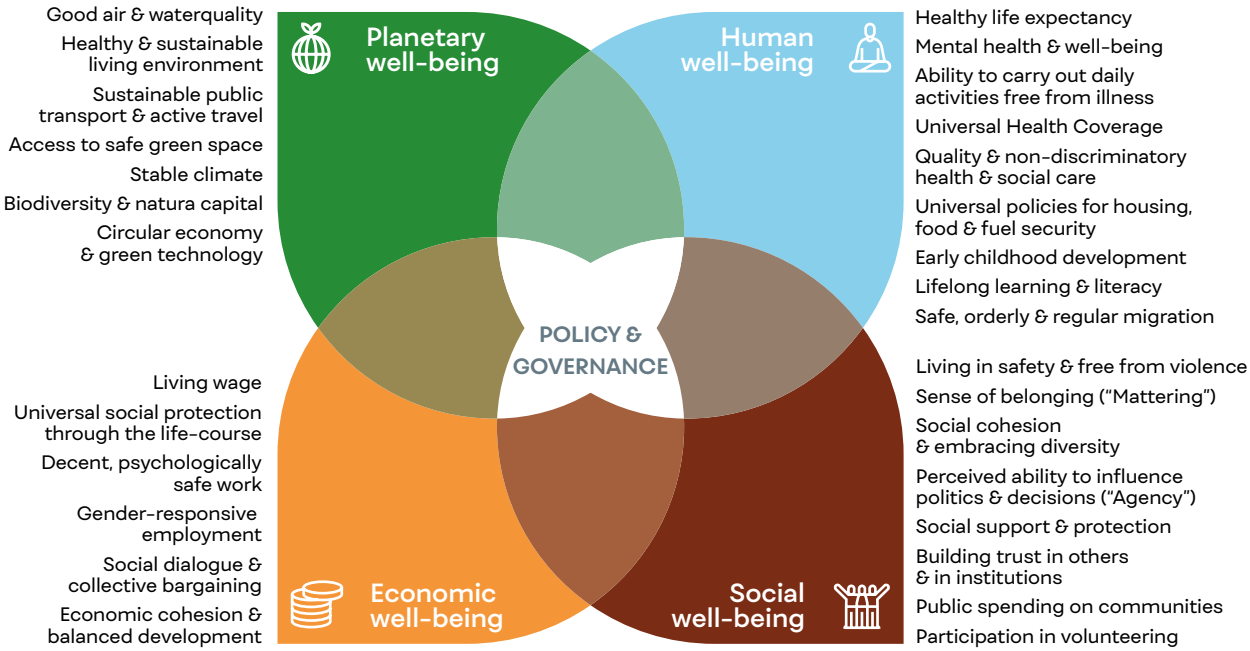
Crises like the COVID-19 pandemic, natural disasters and conflict show that health and security are fundamental for international travel and sustainable tourism development *(32,33)*. For example, beyond the loss of lives and threats to health and well-being, the escalation of the conflict between Israel and the occupied Palestinian territory, including east Jerusalem, and in the occupied Syrian Golan since 7 October 2023 has significantly damaged the Israeli tourism sector: tourists arrivals in Israel witnessed a sharp decrease from 3 687 000 in October 2022 to only 986 000 in October 2023, of which 72.2% were registered before 8 October 2023 *(34)*. Moreover, the Russian Federation's military offensive in Ukraine highlighted the multiple indirect effects of war and conflict on tourism in various countries in the WHO European Region. Exacerbating already high oil prices and transportation costs, and increasing uncertainty, it contributed to the disruption of travel in eastern Europe, including in small countries in the WHO European Region such as Slovenia, which saw a 42% drop in tourist numbers, and Latvia, which saw a 38% drop *(35)*.

2.5 Well-being dimensions of sustainable tourism development

Well-being is a positive state experienced by individuals and societies. Similar to health, it is a resource for daily life and is determined by social, economic and environmental conditions. Well-being encompasses quality of life and the ability of people and societies to contribute to the world with a sense of meaning and purpose *(36)*. Across countries, common elements of a well-being economy approach are equality and equity, keeping within planetary boundaries, strengthening communities, serving the needs of current and future generations, prosperity and sustainability *(37)*.

Various dimensions of well-being are vital to achieving sustainable tourism development: social, human, planetary and economic well-being (Fig. 1). These dimensions can also be understood as well-being capitals, which are crucial for the health of host communities, tourists, and healthy, prosperous and fair tourism industries, where people can thrive *(38)*.

Fig. 1. Well-being dimensions with examples in each domain



Source: WHO Regional Office for Europe *(38)*.

Tourism can be a powerful catalyst for shifting towards well-being economies due to its significant potential for health promotion at the individual and societal levels. Moreover, as one of the largest global sectors, tourism generates substantial revenues and employment opportunities. By prioritizing the health and well-being of tourism workers – particularly migrants, women and young people, who form a large part of the workforce – the industry can drive inclusive and sustainable development. This focus not only enhances the quality of life of workers but also ensures that the benefits of tourism are widely shared, contributing to the overall well-being of communities, and fostering a health-centred economic model.

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3. Impacts of the COVID-19 pandemic on tourism

Box 3. Key messages on the impacts of the COVID-19 pandemic on tourism

- **The impacts of the COVID-19 pandemic on health and well-being are still highly relevant, including in SCI countries.** The WHO European Region was severely affected by the COVID-19 pandemic, with nearly 276 million cases and more than 2.2 million deaths by 5 May 2023. SCI countries, with a total population of 8.7 million, had recorded over 4.5 million cases and almost 26 000 deaths by 5 May 2023.
- **Beyond health, the pandemic has had massive socioeconomic implications, particularly affecting the tourism sector.** Global TDGDP fell by 53% in 2020 (in nominal terms), resulting in a loss of US$ 1.8 trillion during the first wave of the pandemic. International tourist arrivals declined by 72% in 2020, affecting the global economy and employment. Tourism-dependent economies, especially in SCI countries, suffered major revenue losses, affecting vulnerable groups and small businesses.
- **The COVID-19 crisis presents an opportunity to reshape health and tourism policies, promoting resilience, sustainability and inclusivity for future tourism development, embedded in well-functioning health systems.** The pandemic prompted a global re-evaluation of tourism, emphasizing sustainable, resilient and equitable models. Economic and social measures, including stimulus packages and health protocols, were crucial in coping with the crisis. The focus needs to be on ensuring a full global recovery, promoting safe travel, and transforming tourism towards a more resilient, inclusive and sustainable future.

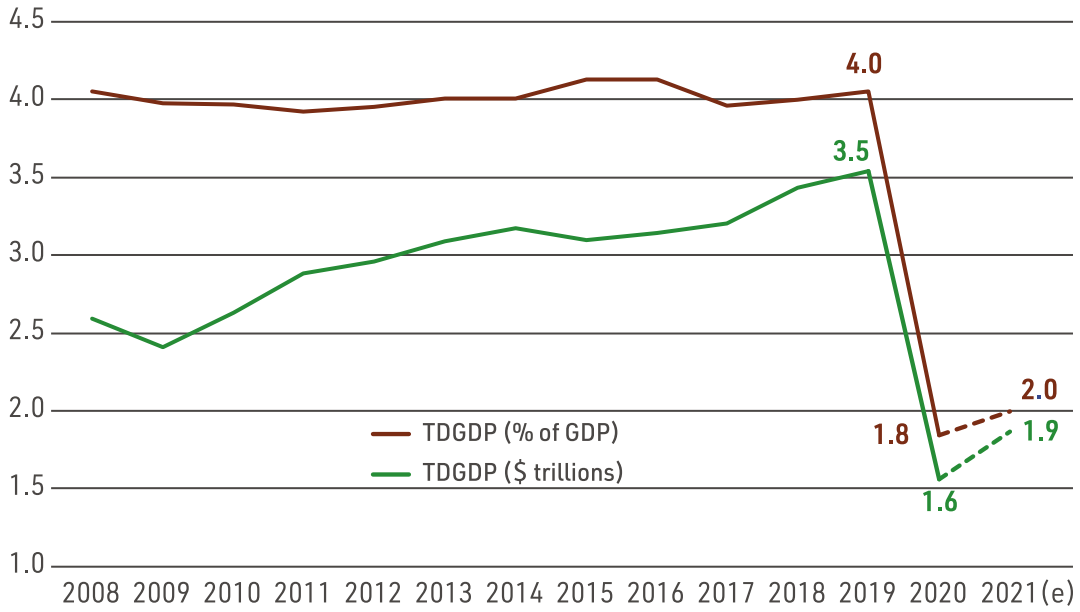
3.1 The impact of COVID-19 on tourism economies in SCI countries

The full impact of the COVID-19 pandemic on health and well-being, on tourism, and on the broader conditions that shape societies, travel and work will never be entirely clear. Without doubt, populations in the WHO European Region were hit hard. By 5 May 2023, when WHO Director-General Tedros Adhanom Ghebreyesus determined that COVID-19 was no longer a public health emergency of international concern *(39)*, the WHO European Region had experienced nearly 276 million cases of COVID-19, with more than 2.2 million deaths among a total population of 928 million. In SCI countries, of a total population of 8.7 million, WHO had recorded more than 4.5 million COVID-19 cases and almost 26 000 COVID-19-related deaths by 5 May 2023 *(40)*. Beyond these tragic effects on health and well-being, the socioeconomic implications were enormous, as tourism was one of the sectors most affected by the consequences of the pandemic *(8)*.

In 2019, export revenues from international tourism (including international tourism receipts and passenger transport fares) amounted to US$ 1.7 trillion, accounting for 7% of the world's exports. TDGDP amounted to US$ 3.5 trillion, representing approximately 4% of global gross domestic product (GDP) *(8)*.

The COVID-19 pandemic cut TDGDP by almost US$ 2 trillion – equivalent to 1.8% of world GDP (Fig. 2).

Fig. 2. Global TDGDP and export revenues from tourism (US$ trillion)

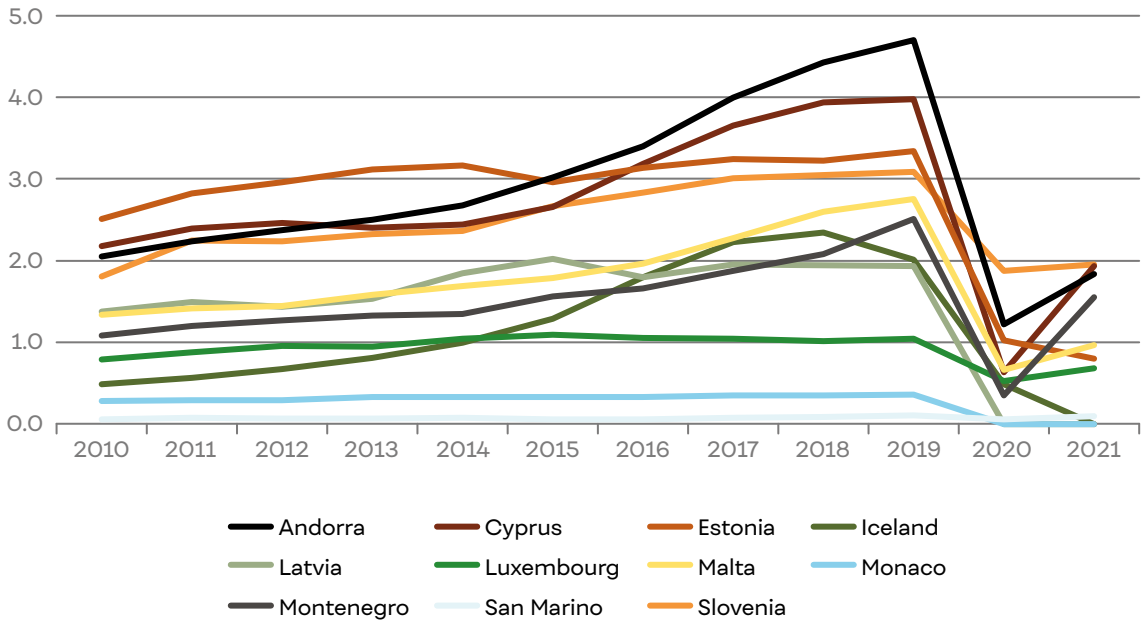


Notes: Data to October 2021; (e): preliminary estimates.

Source: World Tourism Organization (now UN Tourism) *(8)*.

In 2020, the global volume of international tourist arrivals declined by more than 70% to levels that had not been seen for 30 years, with an immense impact on the global economy and employment *(8)*. Tourism destinations have witnessed rapid reductions in incoming tourists, spiralling unemployment, weakening interlinked industries and loss of government tax revenue *(41,42)*. Among the SCI countries, international tourist arrivals plunged from 24 million in 2019 to 8 million in 2020, and 11 million in 2021, to recover to an estimated 22 million in 2022 *(7)*. Fig. 3 demonstrates this trend for the 11 member countries of the SCI in 2022 (excluding North Macedonia, which joined the SCI in 2024).

Fig. 3. International tourist arrivals (millions) in 11 SCI countries, 2010–2022



Source: Data from UN Tourism *(7)*. Figure created by WHO.

For international tourism, the large value chain (including food, beverages, accommodation, transportation and so on) generates millions of direct jobs and indirect employment in other sectors such as health care, financial services and construction. The tourism sector is key to the economies of many European countries and, within this sector, women and young people, informal workers, and micro, small and medium-sized enterprises were disproportionally affected by the pandemic *(8)*. This took a heavy toll on the livelihoods and development prospects of these population groups. However, during the pandemic, domestic tourism proved to be an important market to support the sector *(43)*.

The unexpected global shock brought by the COVID-19 pandemic to the tourism sector was mainly related to travel bans and mobility restrictions, travellers' confidence, and mandatory requirements such as vaccinations *(8,44)*. According to the United Nations Educational, Scientific and Cultural Organization's 2021 meeting report on the economic impact of the COVID-19 pandemic on cultural and creative industries, 2020 saw a 66% drop in global site visits and a 52% decline in revenues at surveyed sites; in addition, as many as 10 million jobs were lost in the creative economy sector *(45)*. The OECD also projected that, along with the tourism sector, cultural and creative sectors were disproportionally affected by the crisis, with jobs at risk ranging from 0.8% to 5.5% of employment across OECD countries *(46)*. Further, travel constraints had a heavy impact on the tourism sector, with consequences for small countries tending to be disproportionally higher due to specific economic vulnerabilities derived from inherent characteristics, such as small market economies, the interdependence of economic sectors and lack of economic diversification *(47)*. Interactive maps showing international and domestic travel controls in the SCI countries can be viewed on the Our World in Data website *(48)*.

Despite positive signs, the recovery pace of global tourism remained slow and uneven in 2021, and international tourist arrivals in the SCI countries were still 56% below pre-pandemic levels at the end of that year *(8)*. Owing to new waves of COVID-19 infections, constraints in supply chains, labour shortages, skills gaps, the cost-of-living crisis and inflation pressures, as well as new challenges of economic slowdown and geopolitical instability related to the Russian Federation's war in Ukraine, the global economy remained far from recovered in 2022 *(42)*. Although tourism has rebounded strongly since the COVID-19 pandemic, with international arrivals and receipts recovering significantly in 2024, the recovery remains uneven across destinations, and challenges such as workforce shortages, inflation and geopolitical tensions persist *(43)*.

Countries were affected by the pandemic at different times, in different ways and to varying degrees. Some SCI countries were initially spared owing to their geographical distance from areas of infection at the start of the epidemic and preventive measures taken to restrict travel and mobility *(49)*. In response to the pandemic, SCI countries have further strengthened their public health and social measures and overcome challenges to roll out their vaccination strategies *(50)* to reduce the spread of COVID-19 and resulting mortality *(51)*.

During the pandemic, strict public health and social measures were applied across countries in the Region. The Oxford COVID-19 Government Response Tracker (52) systematically tracked government responses to COVID-19 across countries and subnational jurisdictions over 2020, 2021 and 2022, demonstrating how some countries imposed stricter measures than others, particularly at the start of the pandemic. A stringency index *(48,52,53)* (according to nine metrics: school closures, workplace closures, cancellation of public events, restrictions on public gatherings, closures of public transport, stay-at-home requirements, public information campaigns, restrictions on internal movements and international travel controls) and a containment and health index *(54)* (according to 13 policy response indicators, including school closures, workplace closures, travel bans, testing policy, contact tracing, face coverings and vaccine policy) tracked the strictness of government policies.

Major revenue losses during the COVID-19 pandemic in highly tourism-dependent countries increased awareness of the major downsides of mass tourism in terms of economic, social and environmental sustainability. This includes the economies of many SCI countries – particularly Andorra, Cyprus and Malta – which have important tourism sectors, and experienced adverse economic shocks during the pandemic.

3.2 Economic and social measures to cope with the COVID-19 pandemic

The wide range of economic and social measures adopted by countries to cope with the economic repercussion of the crisis mainly took the form of economy-wide stimulus packages (fiscal and monetary measures), along with job and income support measures – in many cases supported by international and regional institutions. The fiscal and monetary policies put in place were often complemented by specific packages aimed at sustaining jobs, incomes and livelihoods. Examples of these were new emergency social protection, wage subsidies, special incentives, worker-retention schemes and support schemes for self-employed workers *(55,56)*. For more information on the response of SCI countries, the Oxford COVID-19 Government Response Tracker *(52)* provides interactive maps charting which governments provided income support to workers or debt or contract relief during the pandemic.

Countries also drafted national health and safety protocols for tourism. In 2021, the International Organization for Standardization (ISO) developed ISO PAS 5643, which sets out requirements and guidelines to reduce the spread of COVID-19 in the tourism industry *(57)*. UN Tourism contributed to the creation of this standard as a liaison organization in the ISO Technical Committee on tourism and related services, which has provided the tourism sector with standards covering more than 20 subsectors. For example, Estonia introduced a safety label to reassure tourists that certain services had been designed to protect tourists and tourism workers (Box 4).

Box 4. Estonian safety label provides reassurance to tourists

The COVID-19 pandemic had a significant impact on the tourism sector in Estonia. International tourism has always played an important role within Estonia: in 2019, the share of international tourists was 63%, but this dropped to around 26% during the pandemic. COVID-19 changed tourists' expectations to include services and products that respect sustainable development and safety requirements.

Estonia launched a COVID-19 safety label that tourism service providers can apply for; this gives consumers confidence that the service is designed in a way that protects the health of both employees and visitors. The country also developed a new tourism strategy for 2022–2025, including an additional focus on green transition and digital transformation, with the goal of restoring tourism to pre-pandemic levels. Achieving this goal does not call for an immense increase in the number of visitors: it could be achieved through longer stays, higher spending per visitor and higher added value, generating more revenue for the local economy. Optimizing tourism flows by seasons and destinations is a precondition for sustainable tourism, but it also helps countries to manage health risks by ensuring the physical and mental well-being of visitors, tourism workers and local communities.

The different methods applied by countries for tourism recovery show that those with higher levels of economic diversification fared better than others *(56,58)*. For example, Slovenia established rehabilitative tourism as a significant sector, combining health and wellness programmes to attract both domestic and international tourists, and leveraging natural remedies and wellness programmes for better health and well-being (Box 5). Moreover, countries that managed to put strong governance in place and were therefore able to implement effective response plans, public health and social measures (including vaccinations), digital health tools, risk communication, and community engagement were better equipped to reopen for tourism *(59–62)*.

Box 5. Rehabilitative tourism in Slovenia

The motto of Slovenian tourism is Green, Active, Healthy. The rehabilitative tourism sector has existed for more than 160 years in Slovenia, using natural remedies for patient rehabilitation. In the last 20 years, development of well-being programmes, creation of wellness facilities and marketing of rehabilitative tourism has grown considerably.

The impact of COVID-19 was especially felt by this sector from mid-March until mid-May 2020, when all facilities were completely shut down. Lockdowns due to the pandemic resulted in a shortage of human resources in both health and tourism (specifically in gastronomy). Recovery for health tourism started slowly, with increases in the summer of 2020; nonetheless, partial closures continued to affect the sector. While rehabilitation departments continued receiving patients on relevant programmes, the hospitality component of health tourism was completely closed and remained so for nine months (reopening at the end of April 2021, with recovery comparable to 2020 patterns).

Figures show that in 2020 Slovenia had 40% fewer arrivals and 38% fewer overnight stays than in 2019, and 2021 ended with 26% fewer tourist arrivals and 26% fewer overnight stays than 2019. To boost this sector, the Ministry of Economics issued vouchers to every Slovenian citizen for access to spa and wellness programmes.

Rehabilitative tourism initiatives are now implemented by the health sector and the spa tourism sector. Health and well-being are also included in the strategy for development of the tourism sector, and in the health and spa strategy of the Slovenian Spas Association.

Box 5. contd.

Financing for this initiative is shared: the Slovenian Tourist Board is financed by the national budget and the Slovenian Spas Association is solely financed by its founding members, who are all part of the Green & Safe initiative. Efforts are made to include the local population in work processes and to involve local farmers by buying their products. Slovenian health and spa resorts employ approximately 600 health or health-related employees, including doctors from different fields and other medical staff such as therapists, nurses and similar.

3.3 Navigating new health challenges and sustainable tourism since the pandemic

New health system challenges affecting people's ability to travel and work in the tourism sector emerged during the pandemic. These relate to availability and quality of essential health services and health workers; accessibility of safe medicines and vaccines; circulation of information and disinformation; maintenance of public health and social measures; the need for early detection of new COVID-19 variants, and management of NCDs (including childhood and adult obesity, late-stage cancers and disabilities) and mental health problems, the magnitude of which is still unfolding.

Tourism and mental health were both heavily affected by the pandemic, associated losses, concerns, restrictions and lockdowns *(63)*. The determinants for suffering mental ill health were exacerbated during the pandemic *(64)*, and the impacts led to a dramatic increase in prevalence of major depression disorder (by 27.6%) and anxiety disorders (by 25.6%) *(65)*.

The pandemic also amplified pre-existing challenges in small countries, including their reliance on larger neighbouring countries for trade and access to high-quality medicines and vaccines. The shortage of health workers and levels of job strain made the need for health financing and investment for health more salient *(62)*. COVID-19 also slowed down countries' efforts towards achievement of universal health coverage owing to the need for emergency health measures and planning.

As with any unexpected crisis, it is not possible to be fully prepared. Since every action to contain virus transmission gives rise to a counter-reaction – such as travel restrictions that wounded the tourism sector, and especially vulnerable groups – the COVID-19 pandemic emphasized the need to strengthen the resilience of the whole of society, not only the health and tourism sectors. In emergency recovery, it will be crucial to reshape health and tourism policies, promoting resilience, sustainability and inclusivity for future tourism development embedded in well-functioning health systems.

The COVID-19 pandemic accelerated a global rethinking of the tourism sector and its dynamics at a system level *(66)*. Countries began to reflect on current tourism models, and to investigate how different trajectories based on sustainable and equitable foundations could bring more solid and long-lasting benefits, including contributions to improving the health and well-being of host countries and visitors. They also started to consider more than just COVID-19-related health security within their tourism recovery strategies *(67)*. Since the pandemic, promoting health and well-being for tourism workers and host communities has also received attention in local and international initiatives and guidelines to support economies, social protection and tourism as a source of employment and income *(57)*.

While the road to future tourism development is not yet fully paved *(68,69)*, the fight against the pandemic and sustaining jobs and companies in the tourism sector remain key priorities of UN Tourism's crisis management *(70)*. Restoring mobility, promoting safe travel, enhancing coordination and consumer confidence, and advancing a whole-of-government approach to tourism while

supporting the resilience of the sector are critical for the full recovery of tourism to accelerate transformation towards a more resilient, inclusive and sustainable future, maximizing innovative and digitalized opportunities. Taking into consideration cultural, environmental and climate change implications; the impacts on the economy and on livelihoods; and the SDGs, new opportunities for transformation as suggested by the United Nations Sustainable Development Group's policy brief *(16)* include:

- managing the crisis and mitigating the socioeconomic impacts on livelihoods – particularly on women's employment and economic security;
- boosting competitiveness and building resilience;
- advancing innovation and the digitalization of the tourism ecosystem;
- fostering sustainability and inclusive green growth; and
- coordination and partnerships to transform tourism and achieve the SDGs.

On the other hand, the pandemic has accelerated existing consumer trends, creating new opportunities to harmonize demand patterns with action on sustainable development. Tourists are increasingly aware of and concerned about sustainability, seeking more sustainable and responsible tourism possibilities *(8)*. According to UN Tourism, open-air activities and domestic, nature-based and rural tourism have emerged as popular travel choices owing to travel limitations and the preference for open-air experiences.

Younger generations are now more aware of the importance of sustainability and, through their active influence on social media, will be able to contribute to bringing about a shift towards more sustainable tourism *(71,72)*. Current changes in consumer behaviour place sustainability, health and safety, authenticity, and "localhood"[1] at the centre of the major travel trends that continue to shape tourism in the aftermath of the pandemic. For example, locations with high health and hygiene standards and low incidence of COVID-19 have become preferred destinations for tourists since the pandemic *(73–76)*.

3.4 Impacts of COVID-19 on income security, social protection and employment conditions within the tourism sector

As a result of the economic shock and dramatic rise in unemployment in the tourism industry during to the COVID-19 pandemic, tourism workers, entrepreneurs and owners of micro, small and medium-sized enterprises were at risk of falling into poverty if social protection measures – including fiscal and monetary stimulus packages and job support measures – were not in place *(16,77)*. For instance, in Malta, inbound tour operators were in particular distress, many closing down during 2020 or merging in order to survive during the pandemic. Although workers were retained when possible, as businesses were keen to hold on to experienced staff members, many were laid off, and foreign workers needed to return to their home countries *(78)*. Other sectors connected to tourism, such as the cultural sector and the creative industries, were also engulfed in the crisis caused by COVID-19 *(79)*.

Certain population groups – including those with lower socioeconomic status, marginalized ethnic minority groups (including Indigenous peoples), low-paid essential workers, migrants and populations affected by emergencies (such as conflicts) – experienced higher rates of COVID-19 morbidity and mortality; faced greater exposure to the virus; had less capacity to adhere to public

[1] Localhood refers to the idea of tourists experiencing destinations in a way that is more akin to how locals live. This involves tourists engaging in everyday activities, visiting less touristy spots, and immersing themselves in the local culture and community. This approach focuses on engaging and empowering local communities, ensuring that tourism activities reflect and respect their values, needs and aspirations. Such initiatives aim to foster inclusive economic growth, cultural preservation and environmental sustainability, thereby enhancing quality of life for residents while providing authentic experiences for visitors.

health measures; and experienced poorer access to health-care services, including treatment and vaccination *(80)*. The pandemic showed that tourism workers, tourists and crew staff, such as pilots and flight attendants, may face high levels of exposure to infectious diseases, ultimately risking the occupational safety and health of workers and the seamless functioning of the sector *(81–83)*.

Moreover, the most vulnerable groups – including young people and women – are disproportionately affected by crisis-related income insecurity, job loss and poverty, exacerbating the risk of early-onset morbidity and premature mortality, and of mental health and well-being impacts and worse social capital outcomes *(51,84,85)*. For example, while men experienced higher COVID-19 mortality rates, women were affected in different ways that exacerbated pre-existing structural gender inequalities, both as health-care workers and as informal carers for vulnerable adults and children *(86)*. Lockdown measures contributed to a surge in gender-based violence (GBV), and disrupted access to essential sexual and reproductive health services, while socioeconomic damage affected women's employment and income security. Crises such as the COVID-19 pandemic have exposed the consequences of gender-blind emergency responses, which often overlook the distinct vulnerabilities of women and marginalized groups. Women, who constitute 70% of the health and social workforce globally, and 80% in the WHO European Region, faced increased occupational risks, unpaid care burdens and limited decision-making power. In the tourism sector, women are over-represented in low-paid, informal and unpaid roles, and frequently experience sexual harassment – inequalities that were further exacerbated by the pandemic, and that are linked to poorer physical and mental health outcomes *(87)*. These compounded effects highlight the urgent need for gender-responsive crisis preparedness and recovery strategies that promote equity across both the health and tourism sectors.

Countries in the WHO European Region and elsewhere activated fiscal, policy or job support for workers and businesses during the COVID-19 pandemic, mostly applying it to the whole economy or all residents, but also specifically targeting workers and businesses in the hardest-hit sectors, including tourism and travel *(51,88)*. However, informally employed tourism workers did not receive financial support offered by their governments *(89)*.

UN Tourism lobbied for targeted stimulus and aid packages that support tourism workers in informal employment, most of whom are women, "to avoid adversely disadvantaging the female workforce... the instability and lack of legal and social protections inherent to informal employment, [and] leaving women exposed to a sharp downturn in tourism trade and receipts" *(90)*.

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4. Promoting health and well-being through tourism

Box 6. Key messages on promoting health and well-being through tourism

- **Tourism is a crucial ally in promoting health and well-being for individuals.** It offers benefits throughout the travel experience, including reducing stress, promoting social connections, improving physical and mental functions, and creating a sense of freedom.
- **Nature and rural tourism reduce stress.** Engaging with natural environments during tourism activities, such as walking or exploring gardens, significantly reduces stress and contributes to various health benefits, including increased wellness, cardiovascular health and mental well-being.
- **Tourism that promotes physical activity has multiple diverse health benefits.** Participation in physical activities and sports tourism, ranging from marathons to adventure tourism, not only improves physical fitness but also fosters societal advantages, including enhanced mental health, socialization and a sense of community, creating a positive impact on overall health and well-being.
- **The health tourism market is growing.** Health tourism, encompassing wellness and medical tourism, is increasingly offered by destinations to support their tourism industry, leveraging natural assets and wellness services not only to provide economic benefits but also to promote community health and overall well-being.

4.1 Benefits of tourism for physical and psychological well-being

Tourism can benefit mental health and psychological well-being (a mental state that goes beyond a state of moderate mental health *(91)*). Benefits for tourists' health and well-being before, during and after travel have most commonly been related to development of coping mechanisms to deal with work-related stresses or serious life traumas. They also include improving morale and

encouraging social connections, as well as improving physical and mental functions, well-being, and the perception of sense of freedom, independence and autonomy *(92)*. Positive mental health effects of tourism have been widely examined for long-term well-being, stress recovery, subjective life satisfaction, quality of life, emotion and affect, motivation, addiction, transformation and psychotherapy *(63)*. For example, nature-based tourism has been found to offer psychological rescue and rehabilitation for women who have suffered trauma, injury and illness related to abuse *(93)*. Tourism activities – such as those during ski vacations – show positive effects on subjective well-being, life satisfaction, mood, reduced mental stress and physical health *(94,95)*. When depression is related to work, there may be positive impacts of tourism and travel, mainly focusing on detachment from work *(96)*. However, psychological research highlights the short-term effects of such breaks from work, which cannot replace therapeutic or medical treatment of mental health conditions *(97)*. Recent studies also suggest that tourism preferences will change as a result of the psychological effects of the pandemic, as people are now more aware of a personal responsibility to prevent mental ill health, including through taking a holiday and focusing more on the benefits of nature to their own mental health *(63)*.

While stress reduction is generally linked to leisure and recreational activities that can also take place within everyday settings, tourism offers far-reaching opportunities to detach mentally from everyday stressors and to seek stress-reducing activities over time, leading to improved emotional and cognitive functioning, and recovery from mental fatigue *(98)*. Therefore, restoration and recuperation are frequent motives for people to engage in tourism. However, happiness and well-being research has discussed the short- and long-term effects of tourism extensively, noting that well-being can increase in relation to specific tourism activities (such as nature-based tourism), but that this mainly occurs during the vacation, and levels back quickly after returning home *(99)*.

A large body of research has explored the relationship between tourism and stress-induced illnesses, as several tourist activities have been found to reduce high blood pressure, heart rate and cortisol *(100)*. Conversely, inadequate recovery may lead to stress-related illnesses such as burnout and severe sleep disturbances *(99,101)*.

As long-term psychological and physical health and well-being effects are mostly linked to everyday routines, the impact of tourism on health and well-being depends on:

- the length of stay;
- the type of tourism; and
- the interpretation of the experiences – for instance, in the case of hedonic and eudemonic tourism or when hedonic, altruistic, nature and meaningful experiences are related to self-development, creating social interaction, increasing social well-being and contact with nature *(102)*.

For example, tourists have reported higher levels of pre-trip happiness, but reported enduring happiness after their return only if the holiday was explicitly experienced as relaxing *(103)*. Despite advances in health and well-being associated with relaxation, sleep, and psychological detachment from negative incidents and work during a vacation, psychological resilience after the first week following the return depends on vacation memories, persistent mental distance from daily hassles and putting life in perspective *(95,99)*. Life satisfaction was found to increase among tourists (as was the well-being of residents of the host community) if related to positive effects on family life, social life, leisure life and cultural life, among others *(104)*.

Benefits for health and well-being are specific to certain types of tourism (Table 2). Research on the benefits of tourism for health and well-being has focused on nature-based tourism, active and sporting tourism activities, and health tourism.

Table 2. Types of tourism

Type of tourism	Description
Cultural tourism	Type of tourism activity in which the visitor's essential motivation is to learn, discover, experience and consume the tangible and intangible cultural attractions/ products in a tourism destination
Ecotourism	Type of nature-based tourism activity in which the visitor's essential motivation is to observe, learn, discover, experience and appreciate biological and cultural diversity, with a responsible attitude to protect the integrity of the ecosystem and enhance the well-being of the local community
Rural tourism	Type of tourism activity in which the visitor's experience is related to a wide range of products generally linked to nature-based activities, agriculture, rural lifestyle/ culture, angling and sightseeing
Adventure tourism	Type of tourism that usually takes place in destinations with specific geographical features and landscape, and tends to be associated with a physical activity, cultural exchange, interaction and engagement with nature – may involve some kind of real or perceived risk, and may require significant physical and/or mental effort
Health tourism	Types of tourism that have as a primary motivation contribution to physical, mental and/or spiritual health through medical and wellness-based activities, which increase the capacity of individuals to satisfy their own needs and function better as individuals in their environment and society: the umbrella term for the subtypes wellness tourism and medical tourism
Wellness tourism (also included under health tourism)	Type of tourism activity that aims to improve and balance all the main domains of human life including physical, mental, emotional, occupational, intellectual and spiritual, in which the primary motivation is to engage in preventive, proactive, lifestyle-enhancing activities such as fitness, healthy eating, relaxation, pampering and healing treatments
Medical tourism	Type of tourism activity that involves use of evidence-based medical healing resources and services (both invasive and non-invasive), which may include diagnosis, treatment, cure, prevention and rehabilitation
Business tourism	Type of tourism activity in which visitors travel for a specific professional and/or business purpose to a place outside their workplace and residence with the aim of attending a meeting, an activity or an event, of which the key components are meetings, incentives, conventions and exhibitions
Gastronomy tourism	Type of tourism activity characterized by the visitor's experience linked with food and related products and activities while travelling, which – along with authentic, traditional and/or innovative culinary experiences – may also involve related activities such as visiting local producers, participating in food festivals and attending cooking classes
Coastal, maritime and inland water tourism	Types of land-based tourism activities such as swimming, surfing, sunbathing and other coastal leisure, recreation and sports activities that take place on the shore of a sea, lake or river (coastal tourism); sea-based activities such as cruising, yachting, boating and nautical sports (maritime tourism); and water-based tourism activities such as cruising, yachting, boating and nautical sports in aquatic-influenced environments located within land boundaries (inland water tourism)
Urban/city tourism	Type of tourism activity that takes place in an urban space with its inherent attributes characterized by non-agricultural based economy such as administration, manufacturing, trade and services, and by being nodal points of transport

Table 2. contd.

Type of tourism	Description
Mountain tourism	Type of tourism activity that takes place in a defined and limited geographical space such as hills or mountains with distinctive characteristics and attributes that are inherent to a specific landscape, topography, climate, biodiversity (flora and fauna) and local community
Education tourism	Type of tourism that has as a primary motivation the tourist's engagement with and experience of learning, self-improvement, intellectual growth and skills development
Sports tourism	Type of tourism activity that refers to the travel experience of the tourist who either observes as a spectator or actively participates in a sporting event, generally involving commercial and non-commercial activities of a competitive nature

Source: Data from World Tourism Organization (now UN Tourism) *(105)*. Table created by WHO.

4.2 Benefits of nature and rural tourism for health and well-being

The tourism literature generally acknowledges that activities involving the natural environment are those with the highest stress reduction impacts. Research shows that people are happier outdoors in green or natural habitats compared to urban environments *(106,107)*. Connection with nature has a range of benefits including increased longevity, increased wellness, reduced risk of cardiovascular diseases (CVDs), improved mental health and quicker recovery from illness *(107,108)*. Health benefits derive from engagement in physical exercise away from urbanized contexts in environments dominated by nature. Exposure to the natural environment enhances perceptions of physiological, emotional and psychological health *(109)*. Experiences in natural and wilderness areas also provide the potential for tourists to engage not only at a physical level but also within a deeper, more spiritual context *(110)*. Importantly, these benefits are not limited to tourists alone. Host communities – particularly in rural and nature-rich areas – also gain from increased access to improved infrastructure, preserved natural spaces and community-driven initiatives to maintain environmental quality.

One of the most popular tourism activities to explore nature and rural areas is walking, which has the potential to improve cardiovascular circulation, reduce stress and prevent physical disability associated with ageing *(111)*. Walking tourism and outdoor activities have become increasingly popular across Europe, allowing tourists to engage with nature, as well as local people and cultures *(112)*. They can increase physical activity and improve mental health through exposure to blue-green spaces, as observed during the COVID-19 pandemic *(113,114)*. For example, visiting gardens and city parks – referred to as "garden tourism" – offers significant health and well-being benefits for both tourists and local populations, including stress reduction, enhanced mood, and opportunities for physical activity and social interaction *(115)*.

The development of walking trails, park facilities and similar ecotourism projects that improve local infrastructure often results in long-term improvements in local health, well-being and quality of life. Moreover, increased awareness and appreciation of local landscapes can foster community pride and encourage sustainable land stewardship. When local populations participate in or guide outdoor tourism experiences, they may equally reap psychological benefits from social interaction, cultural exchange and a renewed connection to their own environment.

4.3 Benefits of tourism that promotes physical activity for health and well-being

WHO defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure *(116)*. It refers to all movement – including during leisure time – for transport to get to and from places, or as part of a person's work, activities of daily living, exercise or sports. The health benefits of physical activity are many, and are well documented. They include improving physical fitness, muscle strength, aerobic and lung capacity, balance and flexibility; reducing cholesterol; improving neuropsychological functions; preventing and controlling symptoms in many NCDs; reducing the risk of premature death; preventing falls; improving sleep quality; and increasing bone mass. Physical activity also has an impact on socialization; active living through exercise participation; better self-esteem, self-concept and self-confidence; improved leadership skills; and better quality of life.

The health and well-being of tourists may improve in multiple ways through physical activity, such as participating in a marathon race, a skiing holiday or mountaineering *(117)*. As Fig. 4 shows, active tourism like cycling and walking has important direct and indirect health benefits, including reduction of air pollution, thus preventing environment-related deaths and mitigating climate change *(118–120)*.

Fig. 4. Health benefits of walking and cycling

Source: WHO Regional Office for Europe *(119)*.

A growing body of scientific research underscores the societal advantages derived from active travel, encompassing transport, health and environmental benefits *(119)*. Active travel modes – notably walking and cycling – are universally acknowledged as equal counterparts to other urban transport modes, integrated into planning frameworks and embraced globally. Pedestrian- and cycling-friendly environments have been shown to enhance tourism in cities and beyond, with bikeshare schemes gaining popularity among tourists as a convenient means of city exploration. Cities, recognizing the sustainable traffic management potential of bikeshare schemes, have increasingly incorporated them into their infrastructure *(121–124)*.

The benefits of active sporting activities for physical health can be mediated through community identity-building of tourists *(125)*. For example, adventure tourism involves not only physical activity but also cultural exchange, interaction and engagement with surrounding nature at destinations with specific geographical features and landscapes *(105)*. Related tourism experiences, such as trekking, rafting, mountain biking, scuba diving, bungee jumping, mountaineering and rock climbing may require significant physical and/or mental effort, and may involve some kind of real or perceived risk – for example, the risk to physical health in water sports *(126)*. Adventure tourism has also witnessed significant growth of interest for the emotional value and novelty it creates *(127)*. Various countries have sought to become attractive destinations for this niche, including SCI countries such as Iceland, whose scenery and diverse landscape facilitates a variety of outdoor activities *(128)*. Adventure tourism has the great advantage of combining well-being, mental health and sustainability, when activities are planned and implemented targeting sustainable outcomes *(129,130)*.

4.4 Health tourism: travelling for health and well-being

Health tourism is the umbrella term for both wellness tourism and medical tourism (see Table 2) *(105,131)*. While health involves complete physical, mental and social well-being as well as the absence of illness *(132)*, wellness describes the pursuit of an optimal state of individual health, proactively reducing the likelihood of illnesses – especially those associated with poor lifestyle *(109,133)*.

Although health tourism, including wellness and medical tourism, experienced significant growth in a relatively short period of time prior to 2020, it is difficult to estimate the size and trends of health tourism, largely due to the complexity of the phenomenon *(134)* and limited and fragmented data *(135)*. Moreover, the delineations between health tourism and other forms of tourism are sometimes unclear.

Wellness tourism[2] describes travel to seek services to maintain or enhance personal health and well-being, such as services for relaxation. Wellness services can be preventive or curative in nature, and provide healing, relaxation or beautifying of the body *(135)*. The wellness experience is often supplemented with standard tourism activities such as sightseeing and experiencing local culture.

Many established and emerging destinations are looking to medical tourism to support and develop their tourism industry *(135)*. For instance, medical tourism may offer individuals with chronic conditions such as diabetes, cardiovascular conditions or arthritis the chance to access specialized treatments and rehabilitative care while travelling. It can also be an opportunity for tourists to access health care that is too expensive, is not available or requires long waiting times in their countries of origin, or health care involving therapeutic use of natural assets for rehabilitation such as favourable climates or thermal spring water *(137)*. Moreover, for those with rare diseases, medical tourism can provide access to expert care and cutting-edge therapies not available in tourists' home countries, although navigating complex regulations, costs and continuity of care can pose significant challenges. Opportunities in this sector include global collaboration in research and treatment development, while challenges involve ensuring quality standards, patient safety and equitable

[2] The term "wellness" is sometimes confused with well-being. Well-being is a much broader concept than wellness. One definition of wellness is "the path to achieving well-being", and some might argue that wellness is the commercialization of well-being *(136)*.

access to care. Access to information through the internet, rising consumerist identity, low-cost flights, high-quality treatment abroad, and rising costs and waiting lists have been drivers for patients seeking medical tourism offers *(138,139)*.

As a large part of medical tourism is related to dental services, Box 7 highlights specific considerations for dental medical tourism.

Box 7. Oral health and dental medical tourism in the WHO European Region

For many countries in the WHO European Region, oral diseases – such as untreated dental caries (tooth decay), periodontal diseases, oral cancers, oro-dental trauma, and cleft lip and palate – cause a major health burden, including pain, discomfort, disfigurement and death *(140)*. During travel, three main types of emergencies can occur:

- oro-dental trauma – for example, due to falls, sports tourism activities or interpersonal violence;
- acute deterioration of existing preconditions, such as periodontal (gum) disease, root inflammation (pulpitis) or abscess worsening with hot climate during summer vacations; and
- damage to dental fillings or crowns associated with heavy pain, fever and other symptoms.

Generally, allocation of essential medicine and dental emergency treatment is comprehensive in tourist settings across the WHO European Region, including anaesthesia and dental products. However, in many low- and middle-income countries, and for poor and socially disadvantaged members of societies, sufficient access to dental services is often not ensured *(141)*. In addition to socioeconomic status and inequalities, this is linked to a lack of appropriate health facilities and oral health professionals. Moreover, oral disease treatment is often considered not primary health care but aesthetic treatment, involving high out-of-pocket costs *(142,143)*.

Lack of high-quality health care and/or financial considerations are major reasons for medical dental tourism. Although it can be considered an opportunity to increase oral health, dental medical tourism products may either be exclusively available for high-income population groups or carry health risks in terms of hygiene, quality of care and materials, education, and follow-up care. Thus, to achieve universal health coverage there may be a need for harmonized international guidelines, improved quality of care, standardized education of dental health-care professionals and increased coverage of costs.

Medical tourism must adhere to WHO standards of quality of care, ensuring that services are effective, safe and people-centred *(144)*. It may also enhance access to high-quality health care – for example, in small countries with limited capacities or when specialized treatments for rare diseases are needed *(145)*.

However, ethical concerns may arise when local populations face reduced access to care due to prioritization of medical tourists, potentially exacerbating health inequities *(146)*. Apart from public hospitals and insurance operators or companies that act as mediators between hospitals or clinics and medical tourists, most health tourism facilities are privately run, primarily incentivizing use of these facilities for economic revenue instead of health benefits for the local community *(147)*. Economic models for medical tourism need to consider possible financial long-term effects. For example, a study from the United Kingdom investigated the financial impact of surgically managed complications from cosmetic surgery tourism *(148)*. Treating complications of cosmetic surgery abroad led to an average cost per patient of US$ 16 296 (ranging from US$ 817 to US$ 41 778). Infection was the main complication (92%), and the highest costs were for complications related to abdominoplasty (US$ 20 404). Similar costs were reported in another study from the United Kingdom *(149)* and one from the United States of America *(150)*. At the same time, inbound medical tourism can be beneficial for health system financing; another study from the United Kingdom suggested that inbound medical tourists treated as private patients within National Health Service facilities may be especially profitable compared to private patients within the country *(151)*, as estimates suggest that they yield almost 25% of the revenue from only 7% of the volume.

A 2020 worldwide survey by the International Society of Aesthetic Plastic Surgery reported that an average of 15.9% of patients having cosmetic procedures are from other countries *(152)*. Patients seeking elective cosmetic surgery abroad are motivated by significantly lower costs and shorter waiting times. However, after returning home following cosmetic surgery abroad, patients can face health problems. Complications include infections, adverse cardiovascular events, and poor aesthetic and functional outcomes *(153)*. This can also place a burden on the financial resources of health systems. Infections appear to be the most common complications in patients who need hospital treatment in their home countries after returning from surgery abroad *(148–150,154)*. A systematic review reported that having aesthetic breast surgery procedures abroad significantly increases the risks involved, with infective complications (39%) and return to theatre rates (51%) significantly higher than expected *(155)*.

The high complication rate affects both individual patients and health-care systems in their home countries. Indeed, a study from Ireland of patients who had travelled abroad for cosmetic surgery (including to Estonia and Latvia) and needed a re-operative procedure on their return home estimated mean costs of €15 912.53 (± €6388) for both interventional procedures and inpatient stays *(156)*. This suggests that complications from cross-border procedures account for a significant cost burden to the Irish health service.

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5. Protecting and promoting the health and well-being of tourists and local communities

Box 8. Key messages on protecting and promoting the health and well-being of tourists and local communities

- **There are multiple levers in health and tourism interconnections for health promotion at the community level.** Diverse tourism types; travel modes; individual characteristics of travellers, tourists and tourism workers; individual behaviour; host community characteristics; and the quality of the health system and its services have an impact on health and well-being.
- **Health risks in tourism are often neglected and under-represented.** Health and tourism sectors need to coordinate to prevent various infectious diseases, injuries and violence. Prioritizing quality over quantity is essential for improving tourists' and host communities' quality of life. The focus needs to extend to previously neglected topics in travel medicine, including sexual and reproductive health, road safety, mental health, NCD treatment and environmental health.
- **Health and tourism research needs to take a holistic approach** and further examine the health and well-being of tourists, tourism workers, host communities and healthy environments in tourism settings. The health system should be prepared to serve both host communities and tourists without discrimination. Sustainability analysis in the broader socioeconomic and environmental context is crucial.

Tourism has the potential to influence health from a variety of perspectives – in relation to tourists themselves, people working with the tourism industry and the local population in the tourism setting. The health impacts related to tourism are often mediated or moderated by multiple factors, making it a challenge to disentangle any direct causal relationships between tourism and health.

Tourism can have multiple benefits for tourists' and populations' health and well-being *(157)*. Numerous studies have described positive mental and physical health effects for tourists related to specific types of tourism – such as nature-based tourism *(158,159)* and wellness tourism *(160)* – and have shown that travel has become safer in terms of reductions in tourism-related illness *(161)*.

Positive long-term health outcomes for the host community have also been associated with tourism-related social interactions *(162)*. At the same time, tourism is understood as not simply a facilitator for well-being and positive health outcomes but "a positive force for change addressing environmental and sociocultural concerns and sustainable development" *(163)*. Moreover, well-being has become a central aspect of tourism development in many countries *(164,165)*.

The greatest share of international research on the relationship between health and tourism has focused on health risks associated with international travel for tourists, people working in tourism and the host communities. This chapter aims to examine the associations between tourism and most common health issues. Many health implications of tourism occur during – not because of – travel. They are related to the complexity of tourist types; forms of tourism; individual characteristics of travellers; travel processes; exposure to health risks; and the social, economic, work and environmental conditions of destinations and locations.

It is important to consider that the relationship between tourism and health will differ greatly at the individual level and between settings. For example, geographical characteristics of the location (mountains, sea or city), tourism purposes, hygiene and sanitation practices, food and water safety, and access to quality health services and health-care systems at destinations will set different conditions for health and well-being. Tourists may be exposed to infectious diseases, foreign diets, accidents or injuries. They may receive planned or emergency treatment abroad, suffer symptoms related to NCDs, or be exposed to a variety of environmental conditions they are normally not used to.

More information and evidence are available for some areas than others. Challenges in health and tourism research include the following.

- Methodological challenges exist in linking health and tourism owing to the complexity of the research, enormously heterogeneous samples and the all-encompassing multisectoral field of study.
- Research gaps include intersectional analysis, NCDs, mental health, prevention of injuries and violence (including gender dimensions), access to sexual and reproductive health and rights (SRHR) at all times, and the environment–health–tourism nexus.
- Fragmented data and diverse survey methods hinder comparability.

5.1 Infectious and communicable diseases

On visiting another community or country, tourists may be exposed to or carry infectious[3] or communicable[4] diseases, which can range from relatively mild illness – such as the "common cold" – to more severe diseases such as malaria *(168)*. This is compounded by the possibility of the tourist not being aware of the risks of disease in the community or country they are visiting, and not knowing how to reduce exposure to diseases – for example, suffering foodborne diseases after consuming contaminated food, which may or may not affect the local population.

Today's international movement of people, animals, plants and goods plays a role in accelerating the spread of infectious diseases, as technological advances and globalization have increased the speed of and opportunity for travel and trade. Contributing to this are large-scale climatic and environmental changes; human interaction and interference with plants, animals and the environment; and – most notably – antimicrobial resistance (AMR).

[3] Infectious diseases are caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; the diseases can be spread, directly or indirectly, from one person to another *(166)*.

[4] Communicable diseases are illnesses that spread from one person to another or from an animal to a person, or from a surface or a food *(167)*.

However, information is also travelling faster around the globe, providing technological solutions to limit the spread of diseases. In the past, travel and tourism were identified as top drivers for infectious disease threat events in the WHO European Region, necessitating adequate response and preventive measures *(169)*. At the same time, willingness to travel can be lower for destinations with high prevalence of infectious diseases, depending on related safety measures *(170,171)*. As discussed further in section 6.5 on governance and leadership, in 1969, the International Health Regulations (IHR) first specified the obligations of governments to report communicable disease to ensure maximum security against international spread with minimum interference with world traffic and travel *(172)*.

5.1.1 Vaccine-preventable diseases

Some diseases are preventable through vaccination (see the list of available vaccines and pipeline vaccines on the WHO website *(173)*). Pre-departure health services should include information on disease risks and, where possible, vaccination to prevent infection before travel, as discussed in more detail in section 6.1.2 on health service planning and travel medicines. Vaccines for travellers include:

- basic vaccines used in national routine programmes – particularly, but not only, in children;
- others that may be advised before travel to countries or areas at risk of these diseases; and
- those that, in some situations, are required by the third edition of the IHR of 2005 *(174)* (Box 9).

Other vaccines are advised on the basis of a travel risk assessment for the individual traveller. In deciding which vaccines would be appropriate, the following factors should be considered: risk of exposure to the disease, age, health status, vaccination history, reactions to previous vaccine doses, allergies, risk of infecting others and cost.

Box 9. Vaccine-preventable diseases and tourism

WHO recommends the following routine vaccines for review before travelling to provide protection against diseases endemic to the country of origin or of destination *(175)*:

- diphtheria
- hepatitis B
- *Haemophilus influenzae* type B
- human papillomavirus
- seasonal influenza
- measles
- mumps
- pertussis
- rubella
- pneumococcal disease
- poliomyelitis
- rotavirus
- tetanus
- tuberculosis
- varicella.

They are intended to protect travellers and to prevent disease spread within and between countries. Some countries require proof of vaccination for travellers wishing to enter or exit the country.

The following vaccines are for selective use for travellers:

- cholera
- hepatitis A and E
- Japanese encephalitis
- meningococcal disease
- rabies.

WHO produces a country list *(176)*, which provides essential vaccination requirements and recommendations for international travellers, including information on yellow fever, poliomyelitis and malaria prophylaxis, in accordance with the IHR (2005) *(174)*. It is updated regularly in consultation with State Parties to the IHR and WHO technical units, but travellers should verify current requirements with the relevant consulate or embassy *(177)*.

Box 10 highlights how San Marino leveraged the COVID-19 vaccination programme to promote tourism, demonstrating the broader societal benefits and innovative approaches to increasing vaccine uptake.

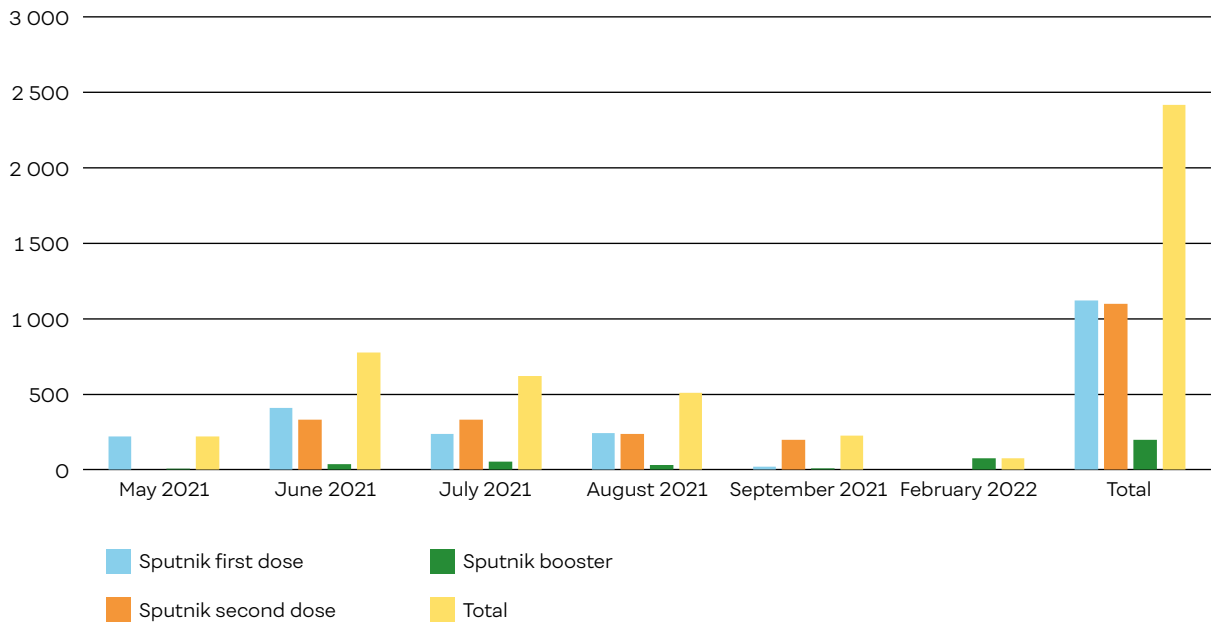
Box 10. San Marino promotes tourism with COVID-19 vaccines

In May 2021, after completion of the first vaccination cycle for all its citizens, the San Marino Government organized an initiative to promote tourism with a health component – an opportunity to be vaccinated with the Sputnik V vaccine while visiting the country, which is popular for its gastronomic and well-being trails. Interested and qualifying people (not including Italian citizens due to a bilateral agreement with Italy) were offered both the opportunity to be vaccinated and accommodation for 2–3 nights (to be repeated each time the vaccine was administered) while only paying for the cost of the vaccine itself (€50 for two doses). The initiative was supported by the national government and the ministries of health, tourism and finance. It took place at a time when COVID-19 vaccines were just out and waiting times to receive them were long.

This initiative offered tour operators the chance to benefit from an influx of tourists after a period of closure in 2020 (Fig. 5). It proved successful, with about 2300 vaccinations administered, and much appreciation from both tour operators and users (patients/tourists).

Public sector staff administered vaccines (around 700–800 per day), but this did not increase their workload significantly. Health workers were offered a small stipend for volunteering their time. Once it was launched, the initiative called for little promotion on the part of the government, as it turned out to be self-promoting: many returned for their second doses. Vaccinated individuals were asked to report any adverse reactions to the vaccine for the first and second doses. In February 2022, the government repeated the project with vaccine boosters. In total, over 6000 hotel stays were booked thanks to the initiative.

Fig. 5. Doses of COVID-19 vaccine administered under the San Marino health tourism initiative



Source: San Marino Tourism Board *(178)*.

5.1.2 AMR and tourism

Antimicrobials – including antibiotics, antivirals, antifungals and antiparasitics – are medicines used to prevent and treat infections in humans, animals and plants. AMR is one of the top global public health threats *(179)*. It occurs when bacteria, viruses, fungi and parasites change over time and no

longer respond to medicines, making infections harder or impossible to treat, and increasing the risk of disease spread, severe illness and death. As a result, the medicines become ineffective, and infections persist in the body, increasing the risk of spread to others. Microorganisms that develop AMR are sometimes referred to as "superbugs" *(180)*.

The main drivers of AMR include the misuse and overuse of antimicrobials, potentially related to habitual aspects of antibiotic use – for example, when taking antibiotics "just in case" prior to travel *(181,182)*. According to research *(183–186)*, other main drivers are:

- poor prescribing practices and legislation, including over-the-counter sales and a lack of legislation and connected mechanisms for compliance;
- absent or weak infection and disease prevention and control in health-care facilities and farms;
- self-medication and absent or weak access to high-quality affordable medicines, vaccines and diagnostics;
- lack of access to clean water, sanitation and hygiene for both humans and animals;
- lack of awareness, knowledge and antibiotic development; and
- social and cultural drivers of resistance, including those related to food security, poverty, health care provision and access, health-care practices, norms concerning illness and recovery, and even social representations and meanings of microorganisms.

Sociocultural, commercial, biological and technical factors shape not only the prescription and use of antibacterial medicines but also the transmission of resistance, as well as research regulation and funding.

In the WHO European Region, notable resistance has been observed in key pathogens like *Escherichia coli*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and *Staphylococcus aureus (187)*. Resistance levels vary widely across the Region, with higher rates generally reported in countries in the southern and eastern parts compared to northern and western parts. Surveillance efforts, coordinated through bodies like the European AMR Surveillance Network and the Central Asian and European Surveillance of AMR Network, have improved data collection, although gaps persist – particularly in nations outside the European Union (EU) and European Economic Area (EEA). The recent European Centre for Disease Prevention and Control/WHO report on AMR surveillance in Europe 2023 *(187)* suggests that addressing AMR requires strengthened surveillance, antimicrobial stewardship, infection prevention and health-care system investment to curb its growing threat.

The emergence and dissemination of AMR organisms is closely linked to international travel *(188,189)*. For example, the risk of introducing AMR organisms into susceptible populations may be amplified by people who carry AMR bacteria after travelling to highly endemic AMR regions. Research has shown that such carriage may persist for up to 12 months following travel *(190)*. Further, geographical differences in resistance and surveillance are relevant for the interconnection of AMR and tourism. In that respect, some studies have highlighted research gaps in global impacts of travel-related AMR when comparing drivers of antibiotic resistance in high-income and middle- and low-income countries, while others have analysed impacts of international travel patterns with more tourists travelling back from low- and middle-income countries to high-income countries *(191)*. The systematic neglect of cultural factors has also been recognized as one of the biggest obstacles in achieving better health outcomes, while social, commercial, biological and technological factors need to be considered for prescription and use of antibacterial medicines, transmission of antibiotic resistance, and regulation and funding of research *(186)*.

While travel is a vehicle for transmission of AMR globally, medical tourism was found to be twice as likely to be associated with multidrug-resistant organisms than other forms of tourism *(184,185,188)*. Transferring patients – who potentially carry resistant bacteria – between health-care settings across borders, or admitting them to a health-care setting while they are abroad, can introduce resistant bacteria into other health-care systems *(192–194)*. Therefore, health systems should consider the role of international travel in the transmission of infectious diseases and take action to address travel-related AMR – for example, through enteric bacterial AMR profiles for high-traffic regions,

implementing new (restrictive) guidelines for tourists who suffer bacterial infections or travel under antibiotic treatment, or managing hospitalization and inter-health-care transfers with preventive methods before and after travel *(188)*.

5.1.3 Global emerging infectious disease risks

Emerging infectious diseases (EIDs) pose a high burden on global economies, health systems and public health. EIDs may be foodborne, vector-borne or airborne; however, most are zoonotic or synoptic, randomly transmitting into human populations, as in the case of COVID-19 *(195)*. WHO distinguishes between diseases that pose the greatest public health risk due to their epidemic potential and those for which no or insufficient countermeasures are available *(196)*. Current priority diseases include:

- COVID-19;
- Crimean-Congo haemorrhagic fever;
- Ebola virus disease and Marburg virus disease;
- Lassa fever;
- Middle East respiratory syndrome coronavirus (MERS-CoV) and severe acute respiratory syndrome (SARS);
- Nipah and henipaviral diseases;
- Rift Valley fever;
- Zika; and
- "Disease X".[5]

Research has identified multiple factors contributing to EIDs, including population ageing, density and growth; spread in health-care facilities; global travel and trade; and changing vector habitats related to environmental contamination and climate change *(197)*. Many EIDs entailing high mortality in humans and high possibility of human-to-human transmission can cause global health problems without available vaccines *(198)*. Social and ecological processes also need to be addressed as underlying drivers of infections *(199)*.

As international travel may create opportunities for emerging infections, tourists can be at risk, especially when they are not aware of existing precaution measures. Although tourism is not considered a root cause for EIDs, the public health impact can be major for some diseases. For example, during the SARS outbreak in 2003, the respiratory infection spread along the routes of international air travel, with outbreaks concentrated in transportation hubs and densely populated areas *(200)*. The COVID-19 pandemic confirmed that international travel activities can accelerate and increase the transmission of infections, which in turn can have an impact on countries' public health systems (see Chapter 6).

Managing EIDs is a major challenge in tourism and public health globally. Prediction of EID occurrence for health system preparedness, real-time tracking and prevention can be facilitated through web-based scanning and analysis methods, early transmission dynamic studies *(201)*, modern genomics and bioinformatics, geomatics and earth observation, and predictive models evaluating risks and internal or external drivers *(202)*.

Despite the removal of travel and trade restrictions within the EU, and increasing information sharing among countries throughout the WHO European Region, national and international strategies for disease surveillance and response need to be integrated to ensure resilience of health systems and health of tourists and travellers across the Region and beyond (see Chapter 6) *(203,204)*.

[5] Disease X represents the knowledge that a serious international epidemic could be caused by a pathogen currently unknown to cause human disease *(196)*.

5.1.4 Zoonotic and vector-borne diseases

Zoonotic diseases are transmitted between animals and humans through direct contact or through food, water or the environment, contributing more than 200 types of zoonoses to a large proportion of infectious organisms affecting human health *(205)*. Vector-borne diseases are caused by parasites, viruses or bacteria; they account for more than 17% of all infectious diseases *(206)*. Among the most common vector-borne diseases in the WHO European Region are malaria, dengue, Zika, chikungunya, West Nile fever, leishmaniasis and Lyme borreliosis.

Although the WHO European Region is considered a nonendemic region for many zoonotic and vector-borne diseases, health systems in the Region are particularly challenged when tourists travel to endemic areas and fall ill upon their return, or when migrants and friends and relatives from endemic countries visit nonendemic small countries in the Region *(207)*. Examples of dengue cases in Madeira and the northern Black Sea coast show that re-introductions can also be related to climate change *(208)*; further, tourists (and trade) arriving or returning from endemic areas have increasingly introduced diseases into countries of the WHO European Region, as in the case of dengue *(209)*. Introduction by infected travellers, the presence of vectors – especially on the Mediterranean coast – and the vulnerability of the local population have also increased the risk of chikungunya virus spreading in the EU *(210)*. It is important to note that tourists might be especially vulnerable to some diseases. For example, non-immune travellers from malaria-free areas might lack access to reliable medical care at their destination, or may face problems upon arriving home – such as unfamiliarity with malaria among health-care workers, delayed diagnosis or absence of antimalarial medicines *(211)*. In turn, risks of zoonotic and vector-borne diseases can have an impact on travellers' choices *(212)*.

For travellers and tourists to malaria-prone areas, prophylactic antimalarial drugs and precautions against mosquito bites can be effective against malaria. When tourists are informed about the risk of infection and are aware of the benefits of prevention strategies, chemoprophylaxis is followed significantly more often *(213)*. Preventive measures are especially relevant for nature-based, leisure and adventure tourism, when untouched ecosystems are visited, or when tourists and tourism workers occasionally stay in forests, undergrowth and grass *(214)*. Effective protective measures, at both the individual and the community level, need a multisectoral approach entailing providing tourists with knowledge about possible risks (such as tick exposure and mosquito presence) and preventive measures; best practices for tourists' self-care (for example, vaccination where available or preventive behaviours); preparedness of local health-care workers and training for differential diagnoses; and One Health surveillance (see Chapter 8) *(215)*. Climate change – leading to shorter, warmer winters and longer summers in the Region – is also linked to more vector-borne diseases (Box 11).

Box 11. Climate change, tourism and infectious diseases

In recent years, changes have been observed in the distribution, elevated proliferation and reproduction rates at higher temperatures; longer transmission seasons; and changes in ecology and climate-related migration of vectors, reservoir hosts and human populations of climate-sensitive vector-borne diseases (including mosquito-borne, rodent-borne and tick-borne diseases) *(216)*. For example, transmission of dengue in the WHO European Region has been made possible through the presence of *Aedes albopictu* in certain areas, while changing climatic patterns are facilitating the spread of chikungunya virus in Asia, Latin America, North America and Europe *(217–219)*. Further, changes in temperature, precipitation and relative humidity have been implicated as drivers of West Nile virus in south-eastern Europe *(169)*. Range expansion of *Ixodes ricinus* – the primary vector in Europe for Lyme borreliosis – to higher latitudes in Sweden and to higher elevations in Austria and Czechia has also been observed.

Implications of climate change for food- and water-related diseases need to be considered for the health of tourists and host communities (see Chapter 8) – for example, regarding increased risks of *Vibrio* infections in recreational contact to seawater as warming water temperatures alter pathogen survival, replication and virulence *(220)*. Further, harmful algal blooms in freshwater related to climate change impacts – such as those caused by toxin-producing cyanobacteria (also called blue-green algae) *(221)* – can harm the health of humans and animals in cases of skin contact, drinking or inhaling water containing toxins, or when eating fish and shellfish containing toxins *(222)*.

5.1.5 Water-related and foodborne diseases

Examples of diseases that can be transmitted through food and water consumption are diarrheal diseases, hepatitis A, typhoid fever, *E. coli* infections (such as enterotoxigenic *E. coli*), shigellosis, legionellosis and norovirus infections and, in rare cases, cholera *(211)*. Moreover, water-related and foodborne diseases have been found to be associated with chemical pollution, such as mycotoxins and marine toxins *(223,224)*; industrial production, agricultural and farming practices *(225)*; veterinary drug residues *(226,227)*; and food additives *(228)*. This puts unborn children, infants and immunodeficient individuals at particular risk of severe damage *(229)*.

Culinary experiences and exchange, and recreational water activities are joyful parts of many types of tourism. However, they can carry risks of water-related incidents – such as drowning and injuries during recreational water activities; zoonosis related to water; and transmission of water- and foodborne diseases through contamination by pathogenic viruses, bacteria or protozoa, or by chemical substances. This is especially the case when people consume contaminated food and beverages, including contaminated tap water or bottled water, or come into contact with polluted recreational water *(230)*. Water- and foodborne illnesses from contaminated food and water may derive from pathogens that cause diarrhoea, such as norovirus, *Campylobacter* spp., non-typhoidal *Salmonella* spp. or *Toxoplasma gondii (231)*.

For many diseases and conditions, diarrhoea is the mostly commonly reported travel-related symptom of infection in the intestinal tract *(232)*, usually caused by bacterial, viral or parasitic organisms, and transmitted through contaminated food or drinking-water or poor hygiene *(233)*. Water-related diseases resulting from contact with contaminated water or poor water, sanitation and hygiene management include also vector-borne diseases such as malaria, bilharziasis or filariasis, which are often related to wider environmental conditions *(234,235)*.

For various water- and foodborne diseases, research has explored linkages with poorly managed food hygiene in tourism settings – such as package holidays and stays in resorts and hotels *(236)*, public bathing *(237)* and different modes of travel, including air *(238)* or passenger ship *(239)*. For example, cases and outbreaks of legionellosis have been associated with using recreational water, such as spa facilities in hotels and public baths *(240)*. Increased risk of various gastrointestinal illnesses may be linked to poor beach hygiene and wastewater discharges upstream of bathing sites – for example, direct contact with fecally polluted beaches during recreation *(241)* and swimming in natural waters and surface waters with sewage contamination *(242,243)*.

Other studies have found associations of occurrence of giardiasis with bathing and drinking-water *(244,245)*, mass tourism *(246)*, and a lack of hygiene in composite food eaten outside the home – including street, restaurant, deli and ready-to-eat foods *(247)*. Travelling with pets has also been identified as a risk factor for increased giardiasis occurrence among tourists and host communities in industrialized countries *(247,248)*.

Tourism is also closely linked to hepatitis E prevalence within the WHO European Region *(249)*, and has been found to be related to certain types of pork and wild animal meat consumption and production *(250)*.

Adequate treatment and preventive measures have been identified for many of these diseases that occur in tourism settings. For example, pre-departure vaccines are effective and crucial for reducing the risk of travel-related diseases, such as hepatitis A *(251,252)*. Regardless of the destination, hepatitis A vaccines are recommended for people at high risk of acquiring severe disease, such as immunosuppressed individuals and those with chronic liver disease, while vaccination should be considered for infants travelling to destinations of intermediate or high endemicity *(199,253)*. Other preventive measures against water- and foodborne diseases include controlling for contamination through human and animal waste, adequate treatment of water by local authorities, disinfection of contaminated water before consumption, and avoiding use of contaminated water for fruit and vegetable production *(249)*.

Pre-travel health advice on hygiene and sanitation practices and vaccination can significantly reduce the risk of infection, as explored in a study on travellers' risk of contracting typhus at destinations with high incidence *(254)*. As typhoid fever often occurs in places with poor sanitation and a lack of safe drinking-water, water, sanitation and hygiene programmes are relevant for protecting the health of tourists and host communities, including improving living conditions to reduce typhoid morbidity and mortality for vulnerable populations *(255)*.

WHO generally recognizes the need for food safety policy-making and decision-making, as well as strengthened prevention, surveillance and management of foodborne disease, including risk communication, awareness-raising and consumer education *(231,256)*.

5.1.6 Sexually transmitted infections and sexually transmitted diseases

Sexually transmitted infections (STIs) are passed from one person to another through sexual contact – usually through vaginal, oral or anal sex. Sometimes they can spread through other types of intimate physical contact – for example, herpes and human papillomavirus are spread by skin-to-skin contact. There are more than 20 types of STIs, including Chlamydia, genital herpes, gonorrhoea, HIV/AIDS, human papillomavirus, pubic lice, syphilis and trichomoniasis. As with many other diseases, sexually transmitted diseases resulting from an infection can show no to mild symptoms, possibly increasing the risk of "silent" transmission.

People who experience casual travel sex were found to have a threefold risk of developing an STI *(257)*, although the characteristics of people engaging in casual or unprotected sex during travel differ. One study reported a proportion of 5–50% of short-term travellers engaging in casual sex while abroad, and an even higher rate among long-term travellers *(258)*. A meta-analysis reported a pooled prevalence of travel-associated casual sex of 20.4%, with almost half of these engaging in unprotected sex *(257)*. Another study reported pooled prevalences of casual travel sex of 35% and of unprotected sex of 17% *(259)*. However, longitudinal data are sparse, so it is not yet possible to compare pre-existing sexual behaviour with changes related specifically to travel. It has also been noted that both tourism operators and tourists have low levels of condom use and STI screening, and there are links between drug and alcohol use and sexual behaviour and risk-taking among these groups *(260)*.

Studies have found high proportions of STIs among travellers, such as travel-related HIV infections in China and Japan *(261,262)*. International travellers account for 26% of Finnish STI cases, including syphilis or gonorrhoea in people returning from European countries *(263)*. Infected people who are unaware of their infection may pose a high risk to others. Also, when travelling, people can transmit multi-resistant HIV virus strains to people from other regions, which may then show a low result in antiretroviral therapy *(264)*. Depending on the travel purpose and number of incoming travellers, countries may have different HIV risks *(265)*. For example, many studies have explored the interconnection of sex tourism and sexual health issues due to high-risk behaviours of sex tourists, such as condomless sex with multiple partners or sex-related drug use while abroad *(266–268)*, as well as characteristics of the local sex industry *(267,269)*. Therefore, the relationship between STIs and international travel should be explored, especially regarding specific individual behaviours.

In a 2021 publication, WHO describes the clinical and programmatic updates collected since 2016 with a focus on HIV testing, prevention and treatment recommendations for public health approaches *(270)*. Sexual education, increasing condom access and use, STI/sexually transmitted disease testing and treatment while travelling, and pre-travel consulting require the engagement of health service providers *(265)*. When diagnosing tourists, sensitivity towards cultural and language barriers is required, as STIs and sexually transmitted diseases are often strongly linked to feelings of shame and stigma, causing additional psychological and social distress *(271)*. Recognition of the need for intercultural competence and diversity sensitivity should also be embedded within health care policy and provision *(272)*. Global treatment efforts with investment in primary prevention of STIs are crucial, including development of preventive vaccines *(273)*.

Safe sex, routine health examinations, accessible and uninterrupted treatment, prevention of sexual violence, and control of working conditions are critical, especially for protecting the health of mobile

sex workers and those in tourism settings *(274,275)*. This requires joint efforts on improving medical services, destigmatization and elimination of sexual violence *(265,276)*. Web-based self-reporting methods for monitoring international passengers returning from an area of emerging infection have also been found to be an effective tool for prevention of STIs *(277,278)*. To control STI transmission, encouragement to seek pre-travel advice and knowledge among travellers about most common infectious diseases at destinations should be improved *(279,280)*, including risks and prevention measurements *(281)*. To keep HIV infection rates low, the focus of interventions has been on safer sex and opportunities to consume drugs in a clean environment – for example, in safe consumption rooms, with sterile needles and syringes. Depending on the destination, travel restrictions for HIV-infected people can be imposed, and some countries have established an entry ban if an HIV infection has been confirmed *(282)*.

5.1.7 Communicable respiratory diseases

Among the most common communicable diseases are respiratory diseases, such as influenza, SARS, MERS-CoV, tuberculosis and measles. These involve symptoms varying from mild respiratory illness to acute pneumonia and even respiratory failure *(283,284)*. Major pathogens primarily targeting the human respiratory system have caused numerous pandemics since the first historically recorded pandemic in 541 CE, including COVID-19, SARS, MERS-CoV and influenza A viruses *(285)*. Although most infected people experience mild to moderate respiratory illness, some face a more serious disease course, as in the case of COVID-19, where serious outcomes were more common among older people and those with underlying medical conditions like CVD, diabetes or chronic respiratory disease *(286)*.

Emerging respiratory infections have also been studied regarding their interrelation with zoonotic hosts and changes in human behaviour, including behavioural changes, modifications of the physical environment and international travel *(287)*. Endemic diseases, epidemics and pandemics can be related to international mobility when being spread among humans across countries or when new virus subtypes emerge *(288)*. SARS has been discussed in relation to tourism and international mobility, including risks of infection *(289)* and impacts on the tourism industry *(8)*. In 2003, the SARS outbreak led to travel uncertainty and restrictions owing to its easy transmissibility and rapid spread; this also highlighted the need for planned and timely risk communication *(290,291)*.

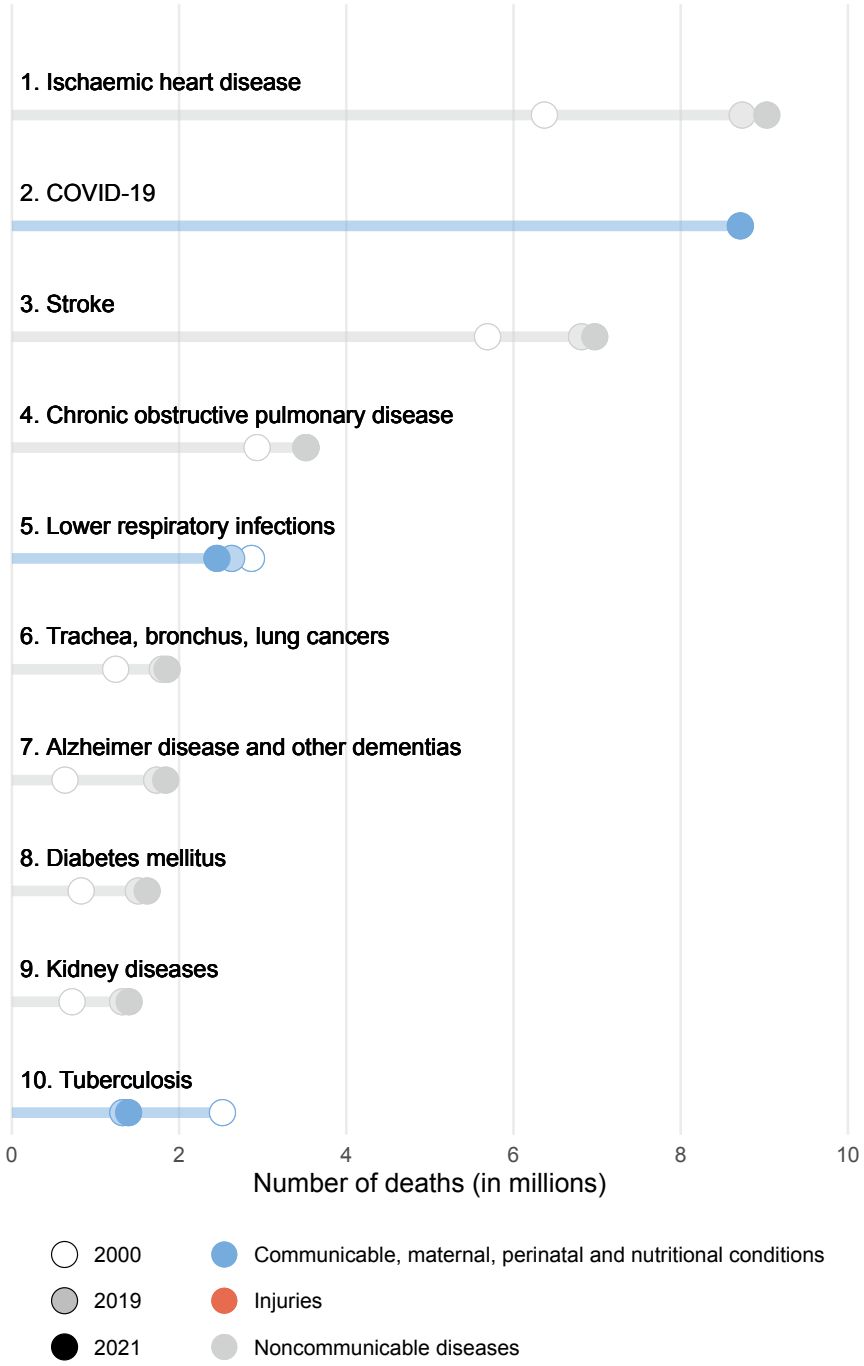
For possible public health emergencies of international concern, such as that declared for the spread of COVID-19 on 30 January 2020, a wide range of public health and social measures are needed, including measures at the individual and community levels, surveillance and response, social and physical distancing, restrictions on international travel, and vaccination *(292)*. Although public health and social measures put in place by countries during the COVID-19 pandemic had an impact on tourism through travel restrictions and tourism activity limitations, they were also designed to revitalize travel and enable safe and secure reopening for tourism recovery. WHO developed a comprehensive toolkit to provide clinicians in acute care with new tools, algorithms, checklists and updated clinical evidence for managing adult and paediatric patients with severe acute respiratory infections, including COVID-19 and influenza, covering aspects from screening and triage to ventilation types and ethical considerations *(293)*.

5.2 NCDs

Beyond building countries' tourism destinations to be resilient against communicable diseases, NCD prevention and treatment are essential parts of protecting and promoting tourism development. NCDs (sometimes referred to as "chronic diseases") such as heart disease, cancer, respiratory disease and diabetes, pose major development challenges for health systems and tourism economies. Of the top 10 global causes of death in 2021 *(294)*, seven are NCDs (Fig. 6). These also have a significant impact on the quality of life *(295)* and subjective well-being *(296)* of individuals. NCDs can affect people's travel decisions and their ability to travel and work. With regard to the host community and tourism workforce, social determinants of health play an important role because "they are

the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life" *(297)*, as discussed in more detail in Chapters 7 and 8 in relation to the tourism workforce. Moreover, NCDs may require continuous access to treatment and care, emphasizing the need for inclusive tourism to ensure that individuals with these chronic conditions can travel safely and participate fully in tourism experiences.

Fig. 6. Leading causes of death globally, 2021



Source: WHO *(294)*.

An estimated 80% of NCDs could be prevented or delayed, according to the NCD Alliance *(298)*. Travellers with the pre-existing health conditions listed in Box 12 are advised to consult a specialist before travel. Preventable, common risk factors underlie many NCDs, including modifiable behaviours such as tobacco use, physical inactivity, unhealthy diet and harmful use of alcohol (Box 13 and Box 14). These lead to physiological changes (such as raised blood pressure, overweight

and obesity, raised blood glucose, and raised cholesterol) that increase NCD risk *(299–302)*. In the WHO European Region, NCDs account for nearly 75% of deaths *(303)*. Alongside young and older people, pregnant and breastfeeding women, and people with disabilities, those with underlying health conditions are strongly recommended to prepare before travel *(177)*.

Box 12. Pre-existing illness that may be related to increased health risks during travel

According to the WHO 2019 international travel and health report, people suffering from underlying chronic illnesses are recommended to seek medical advice before travelling, and to carry all necessary medication and medical items for the entire duration of the journey *(211)*. This is especially relevant for the following conditions that may involve increased risks during travel:

- cardiovascular disorders
- chronic hepatitis
- chronic inflammatory bowel disease
- chronic renal disease requiring dialysis
- chronic respiratory diseases
- diabetes mellitus
- epilepsy
- immunosuppression due to medication or to HIV infection
- previous thromboembolic disease
- severe anaemia
- severe mental disorders
- any chronic condition requiring frequent medical intervention
- transplantation
- oncological conditions
- chronic haematological conditions.

While travel medicine traditionally focuses more on communicable diseases, NCDs are often more prevalent and place higher burdens on health systems. Owing to surveillance legislation, infectious diseases are often notifiable; this may lead to over-reporting bias, since tourism-related infectious diseases are more easily identified and researched than NCDs. In addition, NCD research is also biased in that it often focuses on negative health impacts. It is difficult to estimate NCD prevalence for tourists or to draw conclusions on associations between NCD prevalence and tourism. Although specific types of tourism and travel may be associated with acute deterioration of pre-existing NCDs, results vary between studies regarding the influence of tourism on NCD burden, and the body of evidence relating to the leading causes of death among international travellers is limited *(304)*. Further, tourism can generate health-friendly behaviours, such as following healthy diets or practising physical activities in natural environments that help people to disconnect from daily routines and create positive health-related outcomes *(305)*.

It is important to have a life-course approach to the health of tourists and local communities. When studying NCDs among tourists, it should be noted that outcomes are the result of an entire lifetime of health promotion efforts, risks and exposures, which may have occurred before, during or after the travel. At the same time, people with NCDs have certain risks when travelling, and health systems must be prepared – especially for emergency treatment. This can be complicated for areas with seasonal influxes of tourists, as some treatment devices may be too costly for health systems if only used during several months each year *(306)*, as discussed in section 6.1.2 on health service planning.

Box 13. Harmful use of alcohol

Harmful use of alcohol is a risk factor for many NCDs. In addition, it can be related to unhealthy incidents and behaviour during travel, such as injuries, violence, and increased risk of contracting communicable diseases, including tuberculosis and HIV *(307)*. Alcohol consumption has also been identified as a problem for air travel, requiring voluntary codes of practice and airport-specific or airline-specific actions to address the issue. In 2018, the Institute of Alcohol Studies and the European Alcohol Policy Alliance hosted the first stakeholder event for policy action on alcohol and air travel. Further initiatives by tourism agencies and destinations and legislation are needed to address NCD risk factors to protect the health of tourists and the local workforce, and to promote a healthy lifestyle in tourism areas.

Box 14. Alcohol reduction programme in tourism settings in the Balearic Islands

In 2019, two meetings were held in the Balearic Islands, Spain, to discuss how best to minimize excessive alcohol consumption and related problems in tourist settings *(308)*. A programme on alcohol reduction was especially designed for young travellers. It aimed to protect lives and promote change in the tourism model of the four Balearic Islands – Palma de Mallorca, Ibiza, Menorca and Formentera – which received nearly 14 million tourists in 2018.

Restricted sales and reduced promotion of alcohol at tourist places were introduced, focusing mainly on four areas with a reputation for excessive alcohol consumption: San Antonio on the island of Ibiza, Playa de Palma, El Arenal and Magaluf on the island of Majorca.

New laws imposed fines of up to €600 000 for establishments breaking the rules of:

- bans on pub crawls
- bans on two-for-one drink offers
- bans on sale of alcohol in shops between 21:30 and 08:00
- restrictions in some areas of the promotion of party boats.

Individuals participating in the “balconing” craze – which involves mainly young travellers who jump into a swimming pool from a hotel or apartment balcony, resulting in several deaths each year – were fined up to €60 000.

Tourism, travel or tourist-related work may exacerbate pre-existing NCDs, potentially causing worsening of symptoms, acute events or even death. Health system preparedness is crucial to respond to the NCD-related deterioration of people’s health, especially while travelling outside the health system of their home country. It is therefore of interest to examine the relationship between tourism and NCDs from several perspectives, asking the following questions.

- Does tourism affect risk or protective factors for NCDs among tourists, the host community or the tourism workforce (the last of which is discussed further in Chapters 7 and 8)?
- Are there any specific tourism-related risks for tourists with pre-existing NCDs in terms of acute events, treatment or disease progression and similar?

This section disentangles the links between a few of the most common types of NCD and tourism, including behavioural insights (such as harmful use of alcohol) and risk factors, acute deterioration of NCD conditions, mental health, violence and injuries.

5.2.1 CVDs

CVDs include coronary heart disease, cerebrovascular disease, rheumatic heart disease and other conditions. Heart attacks, heart failure and other cardiovascular complications are related to intermediate risk factors, such as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity *(309)*. The complex interrelation of NCDs and social determinants of health – such as ethnicity and socioeconomic status – affect the prevalence and types of CVDs. Lower socioeconomic status, gender and country of birth are risk factors for myocardial infarction *(310)*. Concurrently, prevalence of ischaemic heart disease varies for each country and for the tourist's region or country of origin *(311)*. Atherosclerosis, which can lead to acute cardiovascular health issues, can be triggered by several factors that might be linked to tourism activities, such as:

- metabolic syndrome due to obesity, high blood pressure, dyslipoproteinaemia (elevation of blood lipids) or diabetes mellitus (glucose tolerance disorder);
- tobacco abuse;
- harmful use of alcohol (see Box 13);
- physical inactivity (see section 4.3); and
- unhealthy diet (see section 4.2).

Apart from strokes, the most common causes of hospitalization in CVDs are related to heart attacks and acute cardiac decompensation (an acute condition in which the heart fails to pump sufficient blood – and therefore oxygen – around the body, resulting in heart failure). Cardiac decompensation usually occurs when the heart is suddenly exposed to greater strain, and clogged vessels prevent enough oxygen reaching the heart – for example, in cases of stress during air travel and in overcrowded places or physical strain, possibly related to hiking, skiing, long driving or experiencing unaccustomed heat. Alpine skiing has been linked to cardiovascular events among tourists due to the combination of altitude-related relative hypoxia, cold temperature and high physical efforts *(312)*. Among tourism industry employees, raised blood pressure has also been found to be highly prevalent in high seasons or in highly crowed tourist places *(313)*.

CVDs are one of the most common pre-existing health conditions in travellers *(314–316)*, and up to 14% of international travellers reported having or were diagnosed with CVDs while travelling abroad *(317)*. Some reports from Canada, Finland and Scotland, United Kingdom, indicate that CVDs account for the greatest proportion of all deaths during travel *(318–320)*. This may be related, in part, to a lack of relevant treatment facilities *(319–321*).

For the treatment of cardiac diseases, tourism locations need special infrastructure to treat them adequately, including a hospital with a cardiology department that can perform cardiac catheterization and pharmacies with cardiac drugs such as blood pressure-lowering drugs, blood thinners and blood lipid-lowering drugs. Emergency equipment is also essential for other cardiac emergencies, even if they occur rarely, such as aortic dissections.

Aside from possible risks to health, tourism can have CVD-related health benefits. A Chinese longitudinal study *(322)* reported a 27% lower risk of all-cause mortality among people who had had at least one tourism experience than among non-travellers, and the rate was even lower for older travellers. A study among workers eligible for paid vacation found a statistically significant relationship between the number of vacation episodes taken in the past 12 months and metabolic syndrome. Specifically, the odds of having metabolic syndrome decreased by 24% for each additional vacation taken *(323)*. Further, each additional vacation episode in the past year led to an 8% decrease in the number of metabolic symptoms.

Travel is thought to increase life satisfaction through four types of recovery experience (relaxation, detachment, control and mastery) *(324)*. Even a short trip (up to two days) can help people to recover from work stress, but longer trips provide more opportunities for different aspects of recovery experiences *(323)*. Specific tourism activities, such as alpine skiing, recreational diving or sun exposure can also be linked to cardiovascular benefits *(312,325,326)*.

5.2.2 Cerebrovascular disease, including stroke

There are two different kinds of stroke. Haemorrhagic stroke occurs when a vessel is ruptured, causing a massive blood spill inside the brain. Emergency treatment of haemorrhagic stroke focuses on controlling the bleeding and reducing pressure in the brain caused by the excess fluid. Ischaemic stroke is caused by a clot in one of the brain vessels. While the risk factors that occur over the life-course are unlikely to increase substantially during a temporary stay abroad, stroke complications can be related to specific types of tourism or travel. For example, an increased risk for venous thromboembolism has been found to be related to air travel *(327)*.

As with CVDs, strokes are related to intermediate risk factors, such as raised blood pressure, raised blood glucose, raised blood lipids, and overweight and obesity *(309)*. The cause of most cases of intracerebral haemorrhage is chronic high blood pressure. This can be related to vascular calcification (arteriosclerosis). Various factors can lead to arteriosclerosis and high blood pressure, including smoking, overweight, unhealthy diet and certain drugs, such as cocaine or amfetamines.

It is important to identify a stroke and seek treatment immediately (within 6 hours of the onset of acute stroke symptoms), as both stroke types often need emergency surgical interventions. To provide emergency care among tourists and the local community, a stroke unit containing computed tomography and magnetic resonance imaging is required, especially in remote areas. Telemedicine could provide helpful options for small countries to get medical support from specialized stroke units nearby and to rule out other possible causes of the symptoms, such as a brain tumour, injury or drug reaction. Cooperative initiatives such as the Stroke Alliance for Europe *(328)* may be useful as a possible alternative to transferring patients.

5.2.3 Respiratory diseases, including chronic obstructive pulmonary disease

Chronic obstructive pulmonary diseases (COPDs), such as emphysema and chronic bronchitis, cause airflow blockage and breathing-related problems. The main risk factors are inhaled noxious agents, including smoking (cigarette, hookah and passive smoking) and air pollution. Although COPDs are chronic, acute exacerbation can occur when oxygen uptake is reduced. A systematic review investigating the health impacts of air pollution on international travellers in cities reported indications of adverse cardiopulmonary health impacts and respiratory symptoms after air pollution exposure. It found that most of the changes were reversible on the traveller's return home, however *(329)*. Risks may also be associated with air travel, as cabin altitude can cause COPD health risks such as hypobaric hypoxaemia in those who have limited cardiopulmonary reserve *(330)*.

In 2012, more than 30% of the global population were affected by allergic disorders, such as allergic rhinitis, bronchial asthma and atopic dermatitis. Asthma is the most common chronic disease. It entails attacks of breathlessness and wheezing, often restricting patients' daily activities and quality of life, or even causing hospitalization *(331)*. Patients need to take asthma management medication with them, and should check allergic conditions at destinations into account before travelling, especially as respiratory allergic diseases are often linked to environmental bioaerosols (such as pollen, dust and spores).

5.2.4 Cancer

Of the thousands of different types of cancer, three of the top 10 causes of death in the WHO European Region are trachea, bronchus and lung cancers (number 5), colon and rectum cancers (number 8) and breast cancer (number 10) *(332)*. The disease course for many cancers is usually slow and gradual over months, often accompanied by weight loss and fatigue. Therefore, many cancer patients with severe health issues are less likely to travel abroad. The risk of sudden tourism-related deterioration of the condition is unlikely but possible. For example, sudden bleeding in the stomach (stomach tumour) or intestine (intestinal cancer), or cerebral haemorrhage (brain tumour) may occur. Cancer patients may have a higher risk of blood clots, infections, lymphoedema (swelling) or sun sensitivity that requiring special attention when travelling.

In the WHO European Region, skin cancer is one of the most frequently reported types of cancer that can be directly linked to tourism-related sun exposure *(333)*. Ultraviolet (UV) radiation exposure has both benefits – such as aiding vitamin D production, which is essential for bone and muscle health – and serious risks, including acute and chronic damage to the skin and eyes, leading to skin cancers, accelerated ageing, cataracts and other diseases. Vulnerable groups – including children, fair-skinned individuals, outdoor workers and those on photosensitizing medications – face heightened risks, with early-life sunburns significantly increasing the likelihood of skin cancer later in life. Promoting sun-safe practices is vital for personal well-being and the sustainable development of tourism. WHO, the World Meteorological Organization, the United Nations Environment Programme and the International Labour Organization (ILO) have launched a new application for mobile phones that provides localized information on UV radiation levels called SunSmart Global UV App *(334)*. Moreover, WHO recommends a layered approach to UV radiation protection as follows *(335)*.

- Time your exposure: minimize outdoor activities during peak UV hours, typically between 10:00 and 16:00.
- Seek shade: utilize natural or artificial shade during outdoor activities.
- Dress for protection: wear long-sleeved clothing and UV-blocking fabrics.
- Protect your eyes and face: use broad-brimmed hats and wraparound sunglasses with 99–100% UV protection.
- Use sunscreen wisely: apply a broad-spectrum sunscreen to exposed areas but rely on shade and clothing as your primary defences. Avoid using sunscreen to prolong sun exposure.
- Avoid artificial tanning: sunbeds increase the risk of skin cancer and should never be used as a vitamin D source.

At the same time, insufficient sun exposure has been linked to increased risks of several NCDs, including breast and colorectal cancer and metabolic syndrome *(326)*. As with many other NCDs, common risk factors such as smoking, exposure to passive smoke, harmful alcohol use and unhealthy diets might increase in tourists during their travelling *(304)*. Conversely, in some individuals these might improve – for example, healthier eating might occur *(336)*.

Owing to increased demand for timely, effective and high-quality cancer treatment, cancer travel has also become an essential branch of health tourism – including for screening, surgery, radiation, chemotherapy and transplantation of organs and bone marrow *(337)*. Cross-border oncology mobility associated with rare treatment and expensive health-care facilities might be particularly relevant for small countries. Moreover, disrupted cancer treatment due to the COVID-19 pandemic has also been found to increase cancer-related health tourism travel.

5.2.5 Diabetes mellitus

Diabetes mellitus refers to a group of diseases that affect how the body uses blood sugar (glucose). It includes type 1 (autoimmune related, which usually has onset during childhood or adolescence), type 2 (often linked to unhealthy diet and excessive weight gain) and gestational diabetes (occurring during pregnancy). A combination of treatment strategies can help patients manage the condition and prevent complications, including pharmacological treatment combined with self-management through diet and exercise, which may be affected during travel.

Studies have reported that tourism-related lifestyle interventions, such as a combination of healthy diet and physical activities, are effective for prevention of diabetes and its complications *(338)*. At the same time, tourism may lead to new patterns of behaviour or consumption that have direct negative impacts on the diets and well-being of local people *(339)*. As local preferences change in areas with high levels of tourism, obesity, type 2 diabetes, heart disease, and alcohol and illegal drug consumption can increase *(340)*.

Patients with diabetes can suffer from complications. On holiday, patients may suffer diabetic coma from severe hyperglycaemia or hypoglycaemia. Carrying sufficient diabetes supplies (such as blood testing strips, insulin and needles) and knowing where to access essential medicine – mainly

insulin – at the travel destination is crucial in such cases. It is also vital for patients to have access to appropriate storage for medications, as some may need to be kept chilled. Secondary diseases of diabetes include chronic wounds on the feet, kidney diseases and eye diseases, which pose health implications for tourists and for people's ability to work. Although long-term consequences do not occur acutely among tourists, complications such as an inflamed foot may require treatment even while on holiday.

5.3 Mental health and well-being

In many countries in the WHO European Region, mental disorders are the leading cause of disability, accounting for 30–40% of chronic sick leave and costing some 3% of GDP *(341)*. The mental health impacts of COVID-19 led to a dramatic increase in the prevalence of major depression disorder (by 27.6%) and anxiety disorders (by 25.6%) *(65)*. This section examines the tourism dimension of specific mental health conditions and their drivers, with a focus on:

- depression and anxiety disorders (see Box 15 for definitions), which are the leading causes of the global burden of disease and were already a leading cause of disability before the COVID-19 pandemic; and
- traumatic stress and psychosis, which are acute mental health conditions that might occur in tourism settings *(342)*.

It is important to note that despite people suffering a mental or physical disease, their levels of subjective well-being might remain at a stable level. In turn, levels of well-being can be low even though a person does not meet the clinical criteria of a mental disorder or physical disease *(343,344)*. Adjusting to a new culture during travel can be challenging and may lead to distress, including anxiety, depression, isolation and identity loss. Returning home after extended travel can also be difficult, as individuals may feel disconnected or experience a sense of loss *(342)*. As discussed further in Chapter 7, inclusive tourism for individuals with mental health conditions and neurological disorders aims to make tourism experiences and tourism employment accessible, comfortable and supportive by creating environments that are easy to navigate, minimize stress, and consider diverse sensory and cognitive needs – for both tourists and locals. Despite its critical role in promoting equal participation, this area remains significantly under-represented in the tourism sector, underscoring the urgent need for increased awareness, adaptive practices and inclusive planning at destination level.

Box 15. Definitions of depression, anxiety disorders, post-traumatic stress, psychosis and dementia

Depression

In contrast to negative emotional responses to challenging events of everyday life, depression entails poor mood, a lack of motivation and interest in daily activities, variation in body weight or appetite, changes in sleep cycles and activity levels, feelings of guilt and uselessness, difficulties with concentrating, and suicidal thoughts *(345)*. Symptoms may vary in severity. They may affect a person's functionality at work, at school or in relationships, and in some severe manifestations can lead to suicide. Suicide is the fourth leading cause of death among those aged 15–29 years, and one of WHO's public health priorities is supporting Member States in their commitment to work towards reducing the suicide rate in countries by one third by 2030 *(346)*. Travel-related stress, isolation from support systems and cultural adjustments can increase the risk of depression *(342)*.

Box 15. contd.

Anxiety disorders

Common symptoms of anxiety disorders can include physical impairment and cognitive distress, as well as feelings of restlessness, irritation, fatigue, difficulties with concentration, uncontrolled worries, sleep problems, and muscle tension *(345)*. Dysfunction and stress caused by depressive and anxiety symptoms exacerbate problematic life conditions and a person's incapability to make and pursue plans – including those regarding their work or holidays. This can increase feelings of uselessness and guilt, while people suffering from depression might experience loss of control, social stress from external expectations, disorientation and worries about unpredictable outcomes – for example, during travel *(347,348)*. Panic attacks may occur before or during travel, and while travel does not directly cause generalized anxiety disorder, it can intensify symptoms. Social anxiety disorder can make interactions and new environments particularly difficult, while specific phobias – like fear of flying or crowded spaces – may disrupt travel plans. Substances such as caffeine, psychoactive drugs and certain medications can also induce anxiety-like symptoms *(342)*.

Post-traumatic stress disorder and traumatic events

Trauma-associated reactions can occur in the form of depression, anxiety disorders, post-traumatic stress disorder, adjustment disorders, somatoform and dissociative disorders, and addictions or substance abuse *(345)*. Despite the possible short- and long-term mental effects of natural and human-made disasters, which can also be experienced during travel, the experience of such traumatic events does not always cause post-traumatic stress disorder. It is associated with pre-, peri- or post-traumatic risk factors, such as the initial severity of a person's reaction, the unpredictability and uncontrollability of the event, and a lack of social support and failure of early identification and treatment.

Psychosis

Psychosis is an abnormal mental state involving significant problems with testing reality. It entails serious impairments or disruptions in the most fundamental higher brain functions (perception, cognition and cognitive processing, and emotions or affect) that may lead to behavioural phenomena, such as delusions, hallucinations and significantly disorganized speech *(345)*. Stress may contribute to acute episodes of psychosis, especially in susceptible travellers. Factors like isolation, substance use, irregular food and fluid intake, and sleep disturbances may increase this risk *(342)*.

Dementia

Dementia is a syndrome that causes cognitive decline, often accompanied by changes in mood, behaviour and motivation. Travel can increase confusion and stress due to routine disruptions, unfamiliar environments, time-zone changes and lack of sleep, heightening the risk of getting lost or experiencing delirium. While travel may offer psychosocial benefits for individuals with mild to moderate dementia, it poses greater risks for those with advanced dementia *(342)*.

5.3.1 Mental health and well-being of tourists and tourism workers

The links between tourism, mental health and well-being are manifold. Over time, tourism research has mostly highlighted the positive effects on well-being and maintaining mental health of tourists, as highlighted in Chapter 4 *(96,348)*.

The occurrence of mental health problems among travellers is not well documented. Studies suggest varying rates, such as 0.2% incidence of psychiatric evacuations in the United States Foreign Service *(349)*. An additional psychological burden may be caused by either preconditions prior to travel (for example, in the case of travel-related psychosis) or the tourist experience in the destination (for example, exposure to a potentially traumatic event, a stressful situation or substance abuse during holidays). While tourism can offer opportunities for meaningful reflection and experiences, and can increase self-awareness, self-esteem and decision-making in people with good mental health,

people suffering from depression or anxiety may face exacerbated symptoms in daily life after the tourism experience *(350)*. International travel can be a stressful experience due to various challenges, including separation from family and familiar social support systems, adjusting to new cultures and languages, and encountering unfamiliar or stressful situations *(342)*. For instance, disruptions to circadian rhythms and sleep deprivation can trigger seizures in individuals with epilepsy, provoke migraines, or lead to relapse in those with bipolar disorder.

The stressors associated with travel can lead to exacerbation or recurrence of pre-existing mental, neurological and substance use (MNS) conditions, emergence of latent problems or development of new issues. For example, short-term tourist travel is considered less stressful, while frequent travel, humanitarian work and expatriation are more likely to cause stress *(349)*. Effective and physiological responses to travel-related uncertainties and mass travel have been found to be correlated with anxiety disorders and certain types of phobia, including phobia related to public places (agoraphobia), closed rooms or travel vehicles (claustrophobia), mass gatherings (demophobia), road and air travel (hodo- and aviophobia), and infectious disease transmission (nosophobia) *(351)*. The COVID-19 pandemic heightened concerns about disease transmission during travel, including prevalence of coronaphobia – fear of COVID-19 *(352)*. Jet lag, fatigue, travel during a pandemic and external pressures can further trigger anxiety and worsen depressive symptoms *(349)*.

Coping with high levels of stress may lead to physical, social and psychological issues, particularly when unexpected changes to travel plans or logistical problems arise *(342)*. Acute stress disorder and post-traumatic stress disorder (PTSD) may be prevalent in travellers witnessing or experiencing traumatic events *(349)*. For example, a few studies have explored the mental health effects of tourists being exposed to natural disasters. Post-traumatic stress related to the 2004 southeast Asian tsunami was diagnosed in people from the Scandinavian tourist populations, with being a women and having lower level of education predicting more severe symptoms *(353)*. At the same time, mental health effects of natural disasters may also increase for local populations. During the 2010 volcano eruption in Iceland, more mental resilience was associated with travellers than those in the local population *(354)*.

An acute first-time psychotic episode during travel – often referred to as travel-related psychosis – is one of the most common mental disorders related to travel-induced stress, culture shock, inappropriate alcohol intake or recreational substance use, circadian rhythm disruption, underlying brain pathology, and physical illness *(355–357)*. Forms of tourism that involve people travelling for the purpose of obtaining or using psychoactive substances – especially those offering nightlife tourism products that attract young travellers – have been found to be associated with drug-induced psychosis, alcohol and drug abuse, unsafe sexual contact, unintentional physical injury, and aggression towards local residents *(357–362)*. Substance misuse – especially when mixing substances or being unfamiliar with drug consumption – can trigger first-episode psychosis or acute psychosis, requiring immediate treatment and, if possible, return to the country or city of residence *(363)*. Policy-makers, host communities and tourists need to be aware of vulnerabilities and risks associated with using cannabis and psychoactive substances – especially among people with one or multiple pre-existing mental disorders *(364)*. Moreover, incidence of acute psychotic episodes, suicidal ideation and completed suicide during travel have also been linked to destinations with high religious, cultural and aesthetic value and high-altitude destinations *(355,365)*. Although travel-related psychosis episodes often have a short duration, the condition is under-researched and can be a challenge for local health-care systems.

Prevalence of some mental health conditions may be higher among people working in the tourism sector, such as being exposed or experiencing burnout, or local communities being exposed to stress because of poor living conditions, lack of good social integration and cultural attitudes, or precarious working conditions *(85)*. Depression can be linked to unemployment, work stress or job insecurity; these are also experienced by workers within the hospitality sector *(366)*. It is important to note that prevalence of depression among workers in the hospitality and tourism sector has not fully been explored. Poor socioeconomic conditions – such as unemployment or isolation, lack of social protection, and instability due to the seasonality of tourism flows – are expected to be associated with increased rates of depression and anxiety in tourism workers *(85)*.

5.3.2 Mental health care and support in tourism settings

Around the world, many people – including those with severe mental illness – are not adequately served. High costs, poor quality of and limited access to mental health care, low levels of health literacy about mental health, and stigma lead to reluctance or inability to seek help *(367)*. The importance of mental health screening in pre-travel consultations is emphasized, especially for those planning extended or frequent travel, engaging in humanitarian work or intending to live abroad. Travel medicine specialists are encouraged to enquire about previous psychiatric disorders, treatments and family history *(349)*.

Access to mental health care for host communities, tourism workers and tourists is a key element of promotion of mental health and well-being in tourism settings. This may entail not only pre-travel medical consultation and diagnosis for mental illness, which could precipitate first clinical episodes in new environments, but also basic knowledge of (travel) psychiatry among physicians and health-care workers *(357)*. Practical considerations for health-care providers include advising travellers on contraindicated medications, laboratory monitoring challenges, medical evacuation insurance, mental health treatment options abroad, refilling prescriptions, support groups, travelling with psychotropic medications and stressors associated with international travel *(349)*.

With regard to exposure to mental trauma, an active network of support is crucial, including close relatives; a person of trust; the feeling of being supported, understood and not judged; and, if necessary, further psychosocial or therapeutic support, accounting for possible intercultural sensitivity and language barriers. Especially after persistent and recurrent (sequential) trauma, it is essential to provide care early on, offering psychoeducation about trauma and grief reactions and their natural course, activating existing resources, and using contextually relevant training *(368)*.

Individuals with mental health issues face challenges and barriers to access to both tourism and health care during tourism. These include contraindicated medications, difficulties in obtaining psychiatric treatment abroad, refilling prescriptions and the potential confiscation of psychotropic medications due to customs regulations *(349)*.

Research findings from telepsychiatry show promising results in remote treatment of depression regarding patient adherence, patient satisfaction and health-care costs *(369)*. These digital solutions may help patients receive remote care from their health-care providers when travelling. The WHO-International Telecommunication Union global standard for accessibility of telehealth services provides guidance for an equitable health service provision, including suggestions for health-care professionals and Member States to adopt regulations or legislation on telepsychiatry *(370)*.

Beyond clinical care, community-based approaches offer an opportunity for comprehensive, integrated and responsive mental health-care services, advocating a recovery-oriented model of care, and integrating mental health into universal health coverage and primary health care *(371)*. For example, for older people, families, children and people with disabilities suffering from anxiety disorders and depression, community approaches in tourism settings – such as exercise programmes, social tourism and domestic group travels – have been suggested as an effective prevention and treatment strategy *(372)*. Promoting and protecting mental health and well-being through social interaction and lifestyle choices, including those related to social connectivity and physical activity in tourism experiences, has significant impacts on physical health, and vice versa *(344)*.

MNS health-care infrastructures vary both within and between countries, affecting the availability of trained professionals, the quality of care and the ability to communicate due to language barriers *(342)*. Legal regulations related to mental health also differ worldwide, influencing the availability of psychotropic medications, the legal treatment of self-harm and suicide, and policies on involuntary hospitalization. These disparities mean that health-care providers must assess whether a traveller in distress can be treated at their destination or requires repatriation. Furthermore, travel insurance may not cover MNS-related care, including mental health emergencies or treatment for substance-related issues, adding another layer of complexity to managing health concerns while travelling.

5.4 Injuries and violence

Injuries and violence are preventable, yet the WHO Global Health Estimates *(373)* showed that every year nearly half a million people in the WHO European Region die due to violence and injuries *(374)*. The three leading causes of injury deaths in the Region are self-directed violence, falls and road traffic injuries. Inequalities in injury deaths account for significantly higher mortality rates in males and adults aged 15–29 years. Adults aged 60 years and older, children, and economically deprived individuals were also disproportionally affected by the burden of violence and injury. In many non-fatal cases, violence and injuries are associated with long-term treatment needs and lifelong disabilities. Preventing injury and violence is an inevitable part of health promotion in tourism.

Road traffic injuries are the leading, yet preventable, cause of death for children and young adults aged 5–29 years *(375)*. The most important water hazards are drowning and impact injuries – particularly head and spinal injuries *(376)*. Beside increased risk for young children, non-swimmers and intoxicated individuals, the following risk factors can increase the likelihood of drowning: tide, rip current, falls overboard, head trapped underwater, slip-trip-fall incidents with loss of consciousness, accidents in the water due to unnoticed obstacles in murky water, alcohol consumption, diving accidents, and head or spinal injuries under water. Spinal injuries may result in various degrees of paraplegia or quadriplegia. Head injuries may also cause concussion and loss of memory or motor skills *(377)*.

Interpersonal violence – such as child maltreatment, youth violence, intimate partner violence, sexual violence, elder abuse and violence against women and girls – ranks as the fourth leading cause of death among people aged 15–29 years in the WHO European Region. It is defined as the "intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment, or deprivation" *(378)*. Interpersonal violence occurs between family members, intimate partners, friends, acquaintances and strangers, and may also occur in tourism settings.

Despite a traditional research focus of travel medicine on communicable diseases, injuries have recently been considered as the leading cause of travel-related mortality worldwide, accounting for up to 25 times more deaths than infectious disease *(379)*. While the COVID-19 pandemic contributed to increased risk perception of infectious diseases, the pre-pandemic risk of being fatally injured during travel was around 10 times higher than that of dying from an infectious disease *(380)*. A report on patterns of tourist accidents in the EU revealed that overall mortality from injury of non-domestic tourists ranged from 130 to 200 fatalities per 100 000 person-years of exposure. Traffic accidents, drowning and physical activities in the mountains were the main causes *(381)*. It is important to keep in mind that it is difficult to identify associations with tourism and other health aspects (such as long-term disability or psychological effects of trauma), especially if the effects are not immediate or if they relate to less serious road traffic accidents that might not be fully documented.

Tourists who explore natural and remote areas could face injuries due to unfamiliarity with the environment, and because they partake in activities that they are not used to or prepared for. This situation creates a high chance of accidents that require medical attention, emergency services and eventually repatriation *(382)*. Adventure and recreational tourism activities – especially when involving water activities such as diving, swimming or sailing – are associated with increased incidence of injuries among tourists.

Moreover, in beach tourism, and sometimes also in urban tourism, there is a temptation for some tourists to engage in excessive drinking and partying, leading to accidents *(383)*. Although downhill skiing has numerous potential health benefits from mechanisms related to physical activity, adaptations in the musculoskeletal and postural control systems, exposure to cold temperatures, and emotional and social recreational benefits, it can also cause accidents and injuries *(384)*. Further, e-scooters have increased in popularity in many cities in recent years, and emerging data suggest that tourists may be at particular risk of accidents. For example, a study in Berlin reported that 41% of e-scooter incidents occurred among tourists *(385)*.

Data from EU Member States show that tourist injuries accounted for an average of 1% of hospital treatment at destinations and 7% of injury fatalities among the resident population. Further, data from five Member States suggest that the ratios may dramatically increase in destinations with specific risks, such as sea and mountains, and are higher in regions with a high level of exposure to high-risk activities (such as skiing, swimming, diving, car travel and so on) *(381)*. It was estimated that 30% of injured tourists are transported to hospital by a rescue service (20% by helicopter) and more than half of patients reportedly need follow-up treatment after returning home, which highlights the relevance of costs to the health-care systems in both the country of travel and resident country.

Governments across the WHO European Region already implement preventive measures, especially for road traffic injuries *(386)*. Education of tourists about traffic regulations, informal rules and vehicle maintenance can also help to reduce risks. WHO's global status report on road safety 2023 *(387)* called upon governments to enforce legislation in regard to the following risk factors:

- managing speed
- reducing drink-driving
- increasing motorcycle helmet use
- increasing seat-belt use
- increasing child restraint use
- reducing distracted driving
- reducing drug-driving.

Injuries and fatalities through road traffic collisions, falls, drowning, burns, poisoning and acts of violence against oneself or others can affect and be caused by tourists and individuals in the host community. Nevertheless, visitors' unfamiliarity with regulations at destinations, possible language barriers, or risky behaviour and distraction can increase the risk of injury and violence for both the host community and the tourist *(388)*. For example, the risk of drowning can be reduced not only through awareness of risks but also by taking appropriate precautions *(389)*. Preventive behaviour includes use of life jackets; knowledge about tides, currents, outlets and depth of water; adult supervision of children; and avoidance of alcohol. At the same time, tourism-specific safety strategies should address language barriers, lack of supervision, increased risky behaviour due to substance consumption or decreased risk perception due to holiday relaxation *(390)*.

Although the availability, reliability and comparability of data about tourism-related injuries and violence across the WHO European Region could be improved, it is likely that the increasing number of international tourists will lead to higher numbers of tourists requiring hospitalization at the country of destination *(7)*. This could create a financial burden for health systems, because costs of emergency and recovery treatment are often supported by public funds *(391)*.

5.4.1 Gender-based violence and prevention

Gender roles and norms play an important role in interpersonal violence affecting individuals' health-care experiences and access, jeopardizing the health and well-being of women, men and those with diverse gender identities *(392,393)*. GBV has both immediate and long-term effects on a person's psychological, physical, sexual and reproductive health. In particular, violence against women is a widespread human rights violation and public health concern caused by multiple risk factors *(394)*. One in three women aged 15–49 years have experienced physical and/or sexual intimate partner violence or non-partner sexual violence or both in their lifetime *(395)*. Numerous studies underscore the fact that women face a higher likelihood of experiencing sexual harassment and various forms of GBV than men *(396–400)*.

Although women and girls are disproportionally affected, especially by intimate partner violence, harmful gender norms can also adversely affect the health and well-being of boys and men. Specific notions of masculinity may lead them to take health risks, avoid seeking help or health care, and contribute to the perpetration or experience of violence *(401)*. Men are more likely to suffer from

injuries and violent death than women; they can also be victims of GBV, although in most cases men are the perpetrators of interpersonal violence against other men *(395)*. Cases often stay unreported due to stigma, and "services are not equipped to adequately recognize or manage male sexual abuse and violence" *(402)*. Underlying reasons, including harmful gender norms and social constructions of masculinities need to be addressed, since "men's violence against women and men are interrelated".

GBV, whether in the form of intimate partner violence or trafficking in women, extends its reach into tourism settings *(403,404)*. GBV in travel and tourism is related to wider social structures of gender inequalities and discrimination and affects the safety, health and well-being of tourists, tourism workers and local communities *(405,406)*. One study *(407)* found an increased risk for GBV away from home – particularly for children without a caregiver. As STIs can spread through sexual violence, increased STI risks may be related to that *(408)*. Research suggests that gendered expectations can be linked to GBV, including sexual harassment and assault *(396)*. At various levels – individual, interpersonal and societal – gender inequities, roles and norms exert influence over the health of tourists and host communities.

In the tourism sector, studies have shown that GBV – including sexual harassment through unwanted attention or intimidation of a sexual nature – is endemic across the tourism industry. It is widely experienced by both women and men, but the heaviest impact is borne by women, transgender people and tipped workers *(409)*. Inequalities and prejudice resulting from gender stereotypes can increase the risk of GBV for female tourism workers and female travellers *(410,411)*. Commoditization of women's sexual capital may contribute to GBV and GBV-related health effects, including sexual harassment and human trafficking for sexual and labour exploitation of women in the sex tourism industry (Box 16) *(412–414)*.

Box 16. Tourism, human trafficking and health

Human trafficking, a lucrative crime and human rights violation, exploits women, children and men for forced labour, sexual exploitation, forced begging, organ trafficking and military conscription. Human trafficking is a form of GBV, as gender inequalities, exploitation normalization, objectification of women and male privilege contribute to the heightened risk for women and girls *(415)*. Health consequences for trafficked individuals include drug and alcohol abuse, mental health disorders, behavioural issues and physical health problems. Self-harm, suicide attempts and PTSD are prevalent among survivors, emphasizing the need for specialized care.

The sex tourism industry, a factor contributing to and resulting from exploitation, perpetuates GBV and human trafficking for sexual labour *(416)*. Research on tourism and human trafficking has predominantly focused on commodification of children, women and men in the global sex trade and sex tourism industry *(411)*. However, the role of gender, race and ethnicity in the risk factors and social determinants of health for different demographics – such as boys or men who are sex trafficked or those trafficked for labour – necessitates further research *(415)*. Despite the emphasis on sexual exploitation, the hospitality sector needs to be aware of labour exploitation in kitchens of restaurants or bars, in cleaning guesthouses and in exploitative begging and street hawking in tourist areas. Gender-based labour exploitation is also associated with the gender pay gap in the tourism and hospitality sector, as investigations of hotel housekeepers' working conditions in Canada, the Dominican Republic and Thailand have shown *(411)*. The fact that workers often belong to ethnic minority groups adds an intersectional layer to GBV and exploitation in the sector *(417)*. Tourism infrastructure can be misappropriated for various exploitative purposes, including less common conditions of human organ trafficking that can be entangled with transplant tourism *(418)*.

Box 16. contd.

The tourism sector, through codes of conduct for tourism companies and legislation for prosecution, has a vital role in preventing human trafficking and protecting the health and security of tourists and local communities *(419)*. Health systems play a crucial part in responding to and preventing labour and sex trafficking, with as many as 90% of survivors accessing health-care facilities during or after trafficking *(415)*. Many survivors seek health care in paediatric, mental health and emergency settings, or for both physical complaints – such as headache, stomach ache or work-related injuries – and behavioural health concerns, such as mental illness, psychotic disorders or suicidal ideation. Rights-based, trauma-informed and survivor-centred approaches within health systems are vital to address trafficking's root causes and mitigate risks. Social determinants of health and harm reduction are potential threads for future prevention efforts, including factors such as adverse childhood experiences, child abuse, domestic violence, substance abuse, mental illness and economic vulnerability *(415)*.

Despite its prevalence, GBV against female tourists and tourism workers remains a neglected area of study. The response of health systems to such incidents is largely unknown, rendering it invisible and perpetuating a breach of human rights *(404)*. Health systems are pivotal in preventing and responding to GBV, serving as the first points of contact for survivors seeking health-care services related to GBV symptoms such as injuries or mental health issues *(420,421)*. Health systems can safeguard the health and safety of tourists, tourism workers and host communities through preventive measures and accessible and GBV-responsive health-care services, including emergency care, a trained workforce, survivor-centred quality care and referral pathways *(419,421)*.

5.5 SRHR

Sexual health is defined as a state of physical, emotional, mental and social well-being in relation to sexuality, ensuring that everyone can have pleasurable and safe sexual experiences, free of coercion, discrimination or health risks *(422)*. It involves the sexual health and rights of all people to be respected, protected and fulfilled, and their right to a healthy body and the autonomy, education and health care to decide freely who to have sex with and how to avoid STIs or unintended pregnancy *(423)*. Access to sexual and reproductive health services enables people to exercise their right to health. It is also related to multiple human rights, including the right to life, the right to be free from torture, the right to privacy, the right to education and the prohibition of discrimination *(424)*. It can take the form of medical care related to the reproductive system – for example, to treat an STI; support and care during pregnancy, childbirth and postpartum; and facilitation of reproductive autonomy with provision of contraception and abortion care (Box 17). Historically, medical research has predominantly focused on male participants, leading to significant gaps in understanding of women's health. Until the early 1990s, women were frequently excluded from clinical trials due to concerns about hormonal fluctuations and potential risks during pregnancy. This exclusion has resulted in treatments that may not be as effective or safe for women. Accurately distinguishing between biological sex and socially constructed gender is crucial for health research, as conflating these terms can obscure disparities and hinder the development of effective, equitable health interventions *(425)*.

Women have often been expected to care for sexual and reproductive health, leading to health impacts related to gender stereotypes. These include women's and girls' responsibility for contraception use and difficulties for adolescent girls attempting to access information and services, including in cases of GBV *(423)*. It is important to highlight that SRHR are equally important for men – especially in sharing responsibilities and having healthy sexual relationships *(402)*.

In the context of tourism, promoting SRHR may entail addressing STIs, violence against women and girls, and availability of contraceptive services, as well as sexual and reproductive health needs.

High-quality maternal health care needs to be available at all times, especially during pregnancy, and all possible means need to be in place to prevent maternal mortality. This means that advice and health care need to be available for pregnant travellers – especially during travel to remote or wilderness areas *(426–428)*, for dealing with air travel during pregnancy *(429,430)*, addressing risks such as venous thromboembolism *(431)* and schistosomiasis *(432)*, and those related to dengue, Zika and chikungunya *(433)*. Menstruation can also be affected by travel and changes in climate and environment *(434)*, and can be a burden on the performance of the tourism workforce, such as aviation personnel *(435)*. The oral contraceptive pill may increase venous thromboembolism risk, and it requires regular usage, which can be disrupted by travel across several time zones or to unfamiliar environments, causing vomiting and diarrhoea *(436)*.

According to the Lancet Commission on Sexual and Reproductive Health for All *(437)*, sexual and reproductive health interventions include a range of services. Achieving SRHR for all can be supported through equal rights to access comprehensive, high-quality SRHR services and travel health care for both local populations and (international) tourists, focusing on physical functions. Health care should be tailored specifically to women's and men's needs, and should include management of personal hygiene, especially in the face of hygiene challenges while travelling *(438)*.

Box 17. SRHR in the context of tourism and abortion

WHO enforces women's rights to make decisions about their bodies and health, and promotes access to comprehensive abortion care – including national abortion information and management – to contribute to meeting SDG 3 on health and well-being and SDG 5 on gender equality *(439)*. Abortion care is fundamental to the health of women and girls. Impeded access to safe abortion does not reduce the number of abortions but increases the risk of illegal – and therefore unsafe – abortions, putting women's and girls' health at risk. Although abortion is considered health care as it protects women's lives, health and human rights, not all small countries in the WHO European Region offer legal abortion or show accelerating progress to eliminating unsafe abortions.

In the past, this has led to pregnant people travelling abroad to obtain abortions and the emergence of abortion infrastructure close to borders and even at sea *(440)*. As this can lead to abortion in unsafe places, each Member State is urged to prioritize SRHR and to guarantee by law the protection of women's health. Legislation is a key factor for SRHR, including for safe abortion. Furthermore, the WHO European Action Plan for Sexual and Reproductive Health recommends that countries establish and strengthen evidence-informed comprehensive sexuality education from early years, with a focus on rights and gender equality, which could also be useful for promoting healthy tourism settings *(422)*.

5.5.1 Reproductive tourism

Reproductive tourism refers to the practice of travelling to another country to access reproductive health services, such as fertility treatments, surrogacy or assisted reproductive technologies, which may be unavailable or restricted in one's home country. A study on cross-border reproductive care in six European countries suggest that many patients are motivated by a need to evade restrictive legislation in their own country *(441)*. A study from the United Kingdom reported that outbound medical reproductive tourists often travel to countries in Cyprus, eastern Europe and Spain *(442)*.

It is relevant to consider the impact of reproductive medical tourism on the country and its residents – including, for example, people who donate eggs or sperm to the reproductive facilities. One study reported that the sociodemographic and fertility-related characteristics and motivations of oocyte donors varies across European countries *(443)*, probably due to differences in European legislation (such as on anonymity and payment) and economic circumstances. A study from Cyprus reported that the majority of oocyte donors (70%) were participating in donation programmes for financial gain (through compensation), and many were unaware of the long-term medical risks and the possibility of identity exposure through genetic screening *(444)*.

Legislation plays an important part in reproductive tourism, especially as there may be long-term demographic consequences associated with cross-border reproductive care. A reduction in the number of embryos transferred is the most important step in decreasing multiple gestation rates during in vitro fertilization (IVF). A study in Slovenia *(445)* evaluated changes in the twin birth rate after the country implemented insurance company regulations favouring single-embryo transfer. After the policy was implemented, the twin birth rate in Slovenia dropped significantly from 24.4% to 6.7%. This suggests that regulating embryo transfer can effectively reduce multiple gestations. However, cross-border patients, who were not subject to this policy, had a higher twin birth rate (23.1%), indicating that such regulations could help reduce multiple births if applied universally.

Health-care funding also plays a role. For example, Luxembourg fully reimburses its citizens for health-related expenses, irrespective of where the medical service is obtained. A population-based economic analysis investigated how this affects cross-border payments for fertility services *(446)*. Reimbursement authorizations for IVF fees to cross-border providers remained stable or slightly elevated until 2005, two years after the first IVF centre was opened in Luxembourg. After this, payments to foreign IVF clinics declined steadily, reflecting a decline in the number of patients of Luxembourg seeking cross-border IVF treatment while annual utilization of the domestic service generally trended upwards over time.

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6. Health systems and services in tourism settings

Box 18. Key messages on health systems and services in tourism settings

- **Health system functioning is a precondition for tourism.** Health, hygiene and safety measures are crucial for tourism competitiveness. Well-prepared destinations with robust health services and high-quality health systems attract more visitors. Having a well-trained and sufficient health and care workforce specifically tailored to tourism ensures delivery of integrated, people-centred and high-quality health services to tourists and host communities alike. Ensuring access to essential medicines, vaccines, diagnostic facilities and modern health technologies is fundamental to addressing health needs in tourism settings. Implementation of robust health information systems, including digital health solutions, is imperative for monitoring, managing and disseminating health information tailored to the needs of tourists.
- **International agreements play a crucial role.** Health system governance and leadership play a pivotal role in ensuring health and well-being for all in tourism settings. International agreements, regulations and standards, such as the IHR (2005) and UN Tourism's International Code for the Protection of Tourists, are vital for safeguarding health and well-being in the global tourism sector, including during crises. Patient mobility and the relevance of regulations for quality of care underscore the need for a unified international approach.
- **Emergency preparedness and health service planning rely on cross-sectoral collaboration.** Health service infrastructure and planning, specifically for high tourist influxes and mass gatherings, are essential components of emergency preparedness in tourism destinations. Seasonality planning and integrated people-centred health services are critical for responding to the dynamic nature of tourism-related health challenges.
- **Collaboration and innovation for health in tourism enhance the resilience of health systems and tourism destinations.** Strengthened cooperation between health and tourism sectors at all levels is essential to prioritize health in the tourism agenda and enhance community well-being, environmental conditions and economies. Innovative approaches, including technology-driven early warning systems, comprehensive information and health literacy are key to addressing emerging health issues in tourism under uncertainties. Strengthening the resilience of health systems and fostering sustainability in the tourism sector with health as a central focus has a positive impact on social, economic and environmental determinants of health.

Health, safety, security and hygiene are critical factors for tourism competitiveness. Destinations are better positioned to attract visitors if they have solid health systems,[6] good hygiene standards and safe travel conditions, including road safety, trauma care and effective and high-quality health promotion and preventive services *(18)*.

If tourists are exposed to possible health risks during their trip, are injured, become ill, or are involved in a health emergency or disease outbreak, the health system *(144)* should offer high-quality care, based on evidence and professional knowledge. It should ensure that health care is:

- timely – reducing waiting times and harmful delays for both those who receive and those who give care;
- equitable – providing care that does not vary in quality on account of age, sex, gender, race, ethnicity, geographical location, physical and mental disability, sexual orientation, religion, socioeconomic status, linguistic or political affiliation and similar *(448)*;
- integrated – providing care that is coordinated across levels and providers;
- efficient – maximizing the benefit of available resources and avoiding waste;
- effective – providing evidence-based health-care services to those who need them, including tourists;
- safe – avoiding harm to people for whom the care is intended, especially for health tourism; and
- people-centred – providing care that responds to individual preferences, needs and values.

Within a globalized world, health systems need to have the capacity to control, contain and address public health threats at a global scale, such as pandemics and other severe events of international concern. A well-functioning health system has trained and motivated health workers; a well-maintained infrastructure; access to high-quality health services when and where needed by tourists and host communities without resulting in financial hardship; and a reliable supply of medicines and technologies, backed by adequate funding, strong health plans and evidence-informed policies. When planning for a surge in demand, primary health care services are crucial for safeguarding access, patient satisfaction and care coordination.

Appropriately servicing the needs of tourists might be helped through national plans that ensure coordination of primary care services to increase access and patient satisfaction. For example, these might include capabilities of stringent mapping of public and private health services that look into alternative strategies to increase coverage when planning for a surge in demand, such as outsourcing care.

Using the WHO building blocks framework *(447)*, this chapter discusses the tourism dimension for each of the following key functions of health systems:

- health services
- access to medicines, technologies and diagnostic facilities
- health workforce
- health information systems and digital health
- governance and leadership
- health financing.

[6] "A health system consists of all the organizations, institutions, resources and people whose primary purpose is to improve health. This includes efforts to influence determinants of health as well as more direct health improvement activities. The health system delivers preventive, promotive, curative and rehabilitative interventions through a combination of public health actions and the pyramid of health-care facilities that deliver personal health care – by both State and non-State actors. The actions of the health system should be responsive and financially fair, while treating people respectably. A health system needs staff, funds, information, supplies, transport, communications, and overall guidance and direction to function. Strengthening health systems thus means addressing key constraints in each of these areas" *(447)*.

The chapter reflects on how health systems can be strengthened to respond to needs in tourism settings. It sheds light on some effects of tourism on health systems while arguing that health system preparedness and response is of the utmost importance for tourism recovery, sustainability, development and transformation. Specific areas of policy action are also presented, and examples from small countries in the WHO European Region are provided.

6.1 Health service quality, planning and emergency care

Being able to access high-quality health services without financial hardship, when and where needed by tourists and host communities is a key effort towards achieving universal health coverage. This includes measures that can provide, without discrimination, access to "preventive, curative, rehabilitative and palliative essential health services" and "essential, affordable, effective and quality medicines and vaccines" *(449)*.

6.1.1 Quality of care

High-quality health-care services can reinforce trust and the feeling of personal security in tourists visiting a country, while also affecting the patient experience. Health services that are effective, safe and person-centred are essential – both for the prosperity and well-being of the host community and for effective tourism, including health tourism *(450)*.

Quality interventions in tourism settings that help to promote better health outcomes for both the host population and tourists should cover:

- good governance, including a system that supports quality of health services (such as training, professional regulation and continuing development, external evaluation, clinical governance, outcome-focused indicators as part of health system performance assessment, public reporting, benchmarking, ethical performance-based financing, and medication regulation);
- harm reduction (for example, adoption of a patient safety and learning culture, safety protocols and guidelines – including for vulnerable and marginalized groups, quality assurance and auditing mechanisms, protection of second victims,[7] availability of personal protective equipment and workforce well-being considerations, and patient safety incident reporting systems);
- effective clinical care (including clinical standards and guidelines, clinical decision support tools, audit and feedback, morbidity and mortality reviews and quality improvement cycles); and
- engaging and empowering patients, families and communities (for example, via health literacy, co-design of care models, active participation of patients in health decision-making processes, patient reported measurements, and self-management programmes) *(452)*.

6.1.2 Health service planning for high influxes of tourists

6.1.2.1 Seasonality planning

One particular issue arising in tourism hotspots is an overwhelming demand for emergency services from tourists in the host country during high peak seasons – for example, for winter sports or in summer *(453)*. When a country hosts large numbers of tourists, the demand for health services can sometimes rise exponentially and unpredictably. It is crucial, therefore, to address how a country can prepare sufficiently for such an influx of demand for delivery of health-care services at all levels and, consequently, how to manage to communicate the services available to tourists and guidance on their access and use effectively. Although numbers of tourist arrivals and seasonal variations may usually be stable, the COVID-19 crisis caused dramatic fluctuations *(70)*. Any changes in seasonal trends need to be detected carefully and rapidly to ensure that health-care resources are neither

[7] A "second victim" is a health-care worker who is directly or indirectly involved in an unanticipated adverse patient event, unintentional healthcare error or patient injury, and who becomes victimized in the sense that they are also negatively affected *(451)*.

underestimated nor over-provided and wasted, ultimately improving health system resilience. Beyond access to medicines and diagnostics for tourists, health system functioning is essential to provide conditions for the host communities that guarantee undisrupted access to health-care services and good quality of life throughout the year *(454)*.

6.1.2.2 Planning for mass gatherings

Mass gatherings are defined by WHO as occasions, whether planned or spontaneous, that attract enough people to strain the planning and response resources of the community, city or nation hosting the event *(455)*. They can be sporting, religious and political events, among others, and often attract large amounts of tourists, creating a huge challenge for host communities *(456)*.

Travellers to mass gatherings face unique risks associated with potential environmental hazards, challenging security situations, and increased risks for infectious disease transmission, crowding and poor hygiene from temporary food and sanitation facilities. Consequently, depending on the nature of the event, potential health risks of mass gatherings include injuries, for example, from stampedes and structure collapse; contaminated food and water leading to diarrhoea; extreme temperatures; spread of infectious diseases such as influenza and measles; and potential injury and trauma due to terrorism, crime or violence.

In preparation for mass gathering events, it is essential to conduct an appropriate risk assessment (for before and during the event), including:

- ensuring that correct standards are applied to surveillance, detection/diagnosis, notification and response – including outbreak management, infection control and vaccination;
- ensuring that adequate diagnostic capacities, including human and material resources, and transport procedures are in place;
- planning for the management of mass casualties and emergencies in local communities in and around event venues;
- preparing plans for guided evacuation jointly with emergency services, police and other actors;
- ensuring that procedures are in place to provide updated health advice and guidance for visitors on topics such as vaccinations, food and water safety, adverse weather events, hygiene facilities, and emergency contact numbers;
- in the case of infectious disease outbreaks, understanding the transmission scenarios of the areas where the event takes place and where participants come from;
- considering the public health and social measures the host country has implemented and the available capacities of the host country;
- carrying out activities to encourage healthy behaviours, such as increased physical activity, cessation of tobacco use, healthy eating, avoidance of excess alcohol and safe sex practices; and
- considering the legacy of the event for the public health sector and the host community, including lessons learned.

WHO has prepared an all-hazards risk assessment tool for mass gatherings *(457)* that supports countries and mass gathering event organizers in identifying hazards related to the event, assessing and quantifying the overall level of risk, and accounting for precautionary measures that may reduce risk, making the event safer. It covers sports, religious, cultural and election events, ensuring that an emergency management plan is established, trained for and financed, including also other stakeholders beside the health sector.

6.1.3 Emergency and critical care

Across the globe, individuals experiencing acute illness or injury, including tourists, seek medical care. Emergency care is an integrated platform for delivering accessible, high-quality and time-sensitive health-care services for acute illness and injury across the life-course. Integrated emergency

care services facilitate timely recognition, treatment management and, when needed, continued treatment of acutely ill patients at the appropriate level of the health system. Critical care is an ongoing, intensive treatment provided to patients with life-threatening illnesses or injuries that require close, constant monitoring and support. Care is typically delivered in critical care units (such as intensive care units or high dependency units). Critically ill patients often need advanced medical equipment and therapies, intravenous medications to support heart function or blood pressure, and continuous monitoring of vital signs. Prioritizing an integrated approach to early recognition, resuscitation, treatment and prevention of complications from acute conditions reduces morbidity and mortality from a wide range of diseases across the life-course.

There is a need to enhance anticipation of emergency care in tourism settings, including for tourists with health emergency or critical care needs. Consequently, it is vital to train health workers; monitor performance and outcomes; and, in response, adapt service delivery to meet such needs *(458)*. Health service preparedness plans must address different possible scenarios and respond in a coordinated way defined by national action plans, while respecting tourists' cultural, religious, ethnic and gender preferences. At the same time, health service infrastructure and integration are key to offering sufficient emergency care for tourists. However, access to essential and emergency health services may be limited – for example, in rural areas as health care is often concentrated in large urban centres. To address this, WHO has created the Emergency Care Toolkit (ECT) (Box 19).

Box 19. The ECT

WHO's ECT *(459)* is an open access bundle of interventions, developed to be implemented in emergency units within hospitals – particularly in resource-limited settings. The main aim of the ECT is to support systematic care of acutely ill and injured patients within hospitals. These tools have been implemented in multiple resource settings, and have had a significant impact on morbidity and mortality. The ECT is specifically designed to utilize currently available resources to maximize health outcomes for patients presenting for first contact care for emergency conditions.

The ECT consists of targeted interventions to address the goals within emergency units of:

- improving clinical capacity
- enhancing clinical processes
- improving data collection and quality of care
- promoting effective referral and counter-referral.

6.2 Access to essential medicines, vaccines, diagnostic facilities and technologies

Providing timely and adequate access to medical products, vaccines and appropriate technologies for health screening, prevention and treatment is a core building block of health system preparedness and response. Accessing medical services abroad may arise in the context of a planned trip to access a particular service, facility or technology in medical tourism, or it may result from an unplanned medical emergency while visiting another country *(146)*. Provisions to ensure availability of such services include accessibility, delivery and correct usage of essential medicines and medical devices, and ensuring that tourists have timely access to such supplies in a host country and across borders. From a national context, this could be aided by preparing for and replenishing supplies and planning for need. This is especially relevant in the context of acute emergencies, as recently highlighted by the COVID-19 pandemic, when there were sometimes shortages of essential medicines and facilities for patients, and protective equipment for health workers. Some of the small countries in the WHO European Region face geographical challenges, particularly in remote areas. For example, in Cyprus and Iceland, large areas and hard-to-reach places need to be serviced, possibly

overstretching the provision of specialized tertiary care, which is usually available in only one national centre. Even when such services are available within each regional hospital, large distances still constrain the provision of certain health services in the face of serious emergencies. Box 20 illustrates how Greece scaled up health infrastructure in hard-to-reach areas during the COVID-19 pandemic.

Box 20. Scaling up health infrastructure in hard-to-reach areas during the COVID-19 pandemic – a case study of Greek islands

A fundamental issue at the onset of the COVID-19 pandemic was ensuring that access to medical care – including medicines, diagnostics facilities, rehabilitative facilities, health personnel and protective equipment – would not be impeded in rural or hard-to-reach areas. In the case of the Greek islands, comprehensive plans were laid out to scale up infrastructure for residents while also preparing for an influx of tourists – a sector essential to the Greek economy – who might require urgent medical care during their visit.

The plan was centred on five core actions: increasing the mobility, preparedness and numbers of health workers; ensuring availability of personal protective equipment; enabling connectivity with neighbouring facilities for inpatient care; scaling up the availability of diagnostic testing – both by creating small "hubs" of diagnostic testing and by scaling up existing infrastructure in larger areas; and designing and reinforcing plans for mobility of patient samples, supplies and technologies to ensure quality and efficient roll-out *(460)*.

The situation necessitated the foresight to prepare for an increased burden to local health systems in the tourist season. A major focus was primary health care and accessibility of health centres and medical units – including intensive care units, across all islands – operating on a 24-hour basis with increased numbers of medical and health-care staff stationed on the islands. Another key issue was mobility: orchestrating the prompt delivery of medicinal products and diagnostic tests to the islands. A successful strategy employed "floating health units", in collaboration with small municipal areas and nongovernmental organizations; these travelled by boat, performed routine testing and interventions for locals and tourists alike.

This case presents a plan in which supply chains were used efficiently to connect hard-to-reach areas within a functional network that considered workforce mobility, flight/boat routes and connectivity to central health services that could be scaled up and implemented across the area.

To facilitate accessibility and availability of diagnostic services, medicines and technology, their quality also needs to be ensured – preferably though a set of pre-defined, delineated regulations for approval, certification and subsequent monitoring of such products and the respective legislative framework for the safe circulation throughout a national context. Several EU directives contain legislation to smooth out any discrepancies in quality of medical care *(461)*. Such regulation ensures that patients and users have a high level of protection – as a minimum by setting standards for the quality and safety of medical devices across all EU countries. For example, important modifications to the binding regulation can have a positive impact on the safety of medical tourism, as they introduce provisions for post-approval surveillance, including unique device identifiers that will not only act as device authenticators but also enable reporting and monitoring of adverse safety events, facilitating cross-border coordination and validation with consistent international standards *(462)*.

6.3 The health and care workforce in tourism settings

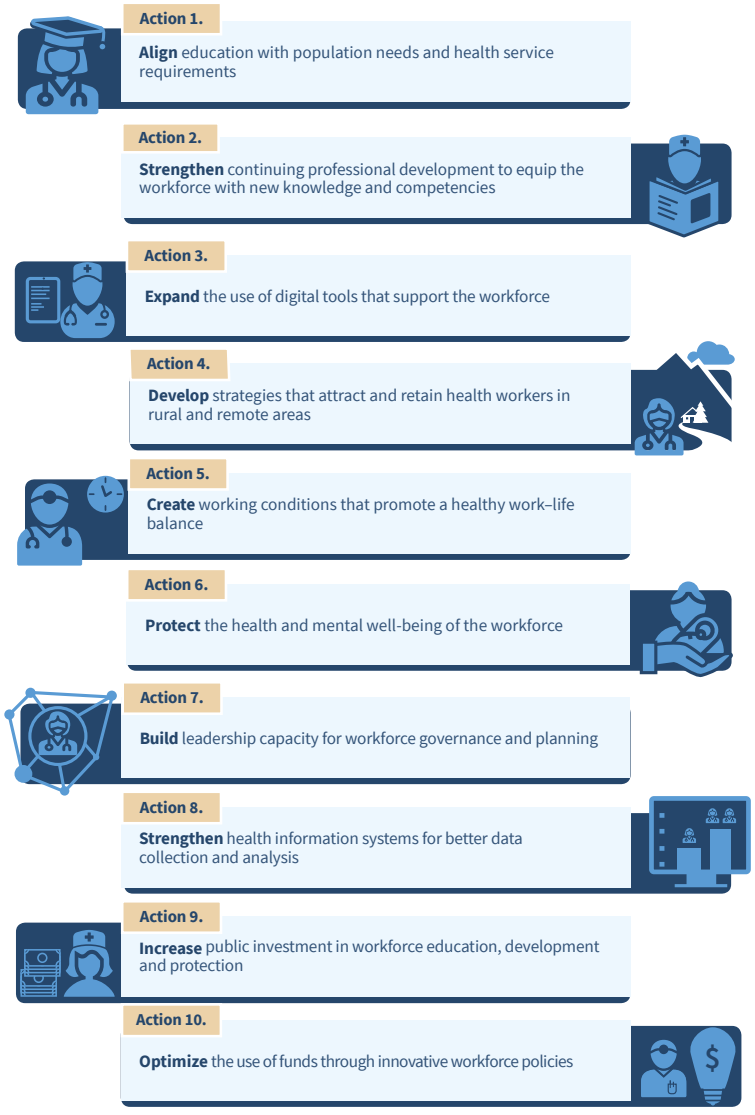
Within the context of international tourism, the need for education and training of the health-care workforce and the importance of developing the capacity of specialized staff to meet the health needs of tourists and the population in tourism-intensive settings, including post-COVID-19 recovery requirements, has become more intense. Countries receiving large numbers of tourists need to

consider how best to ensure that their health workforce is fully prepared to deal with fluctuations in demand for health services – for example, by season or in response to mass gatherings – while also meeting the health needs of the local population. This involves routine monitoring to identify vulnerabilities, risks and health system capacities for health risk mitigation.

The arrival of the pandemic aggravated challenges and added an additional layer of complexity to the situation. Some countries face a further hurdle due to a lack of resources in the education system to activate specialized training and courses, and a limited pool of available domestic human resources, making national education and development even more challenging. In addition, an outflow has occurred of health professionals, attracted by better offers abroad or the opportunity to expand their skills and experience in a larger setting *(461)*. The economic climate (and cost-of-living crisis) across Europe in mid-2022 began to have an impact on salaries, attrition rates and the attractiveness of at least some parts of the health-care workforce to potential recruits *(463)*.

WHO has provided valuable general advice regarding these matters in the *Global strategy on human resources for health (464)* and the *Toolkit for a sustainable workforce in the WHO European Region (465)*. Moreover, the publication on the health and care workforce in Europe *(463)* outlines 10 actions to strengthen the health and care workforce in the Region (Fig. 7).

Fig. 7. 10 actions to strengthen the health and care workforce



Source: WHO Regional Office for Europe *(463)*.

To be confident and effective in responding to tourists' health needs and deal with health emergencies in tourism settings, the health and care workforce may need special preparation in several areas. Tourists may need assistance with accessing the right advice and help when a health problem occurs. Digital technologies could play a role in alleviating the strain in understaffed settings – for example, through mixed use of technological and human resources and by investment in digital/mobile resources and connectivity to support touchless service delivery (such as telemedicine and temperature monitoring). Health systems also need to ensure that front-line staff have the necessary information and skills – through training, readily available information such as helplines or websites, and specially trained staff who can be contacted for advice.

Language and culturally competent care are two of the most common barriers to accessing high-quality health care and service delivery *(466)*. Some countries provide assistance with interpretation for tourists seeking essential health care, as examples from Italy *(467)* and Slovenia *(468)* show. With health care emerging as a commodity in a global marketplace, patients become medical tourism consumers, and interpreters, multilingual service workers and health-care brokers emerge as new figures in the health and care workforce. However, interpreter services increase the cost and duration of treatment. Systems therefore need to be put in place to ensure that health-care workers can manage tourists' health care needs swiftly and effectively, despite language differences *(469)*. At the same time, medical tourism can have impacts on health and care workforce demands and training opportunities (Box 21).

Box 21. Impacts of medical tourism on the health and care workforce

Evidence suggests that where medical tourism is promoted, priorities that are not sensitive to the health needs of the local population or health workforce demands may be taking precedence *(470)*. Attractive salaries and living conditions can lead to health worker flows both into and out of medical tourism destinations *(471)*.

Other examples show that medical tourism can increase training opportunities for health workers. An example from Bulgaria is a signed agreement between the Ministry of Tourism and the Ministry of Labour and Social Policy to promote provision of training for the acquisition of professional qualifications, including on-the-job training to support medical tourism in the country *(472)*. This was important since many hospitals and clinics in the country had little or no training for service and professional staff in relation to the various types of medical care needed by tourists.

An increased understanding of tourism-related labour market dynamics is needed. Other requirements include monitoring of health worker mobility, strategies to mitigate push factors such as burnout and loss of motivation during the peak season, and measures to promote and strengthen trust between tourists, health workers and health authorities.

6.4 Health information systems and digital health

Digital health is a growing area that involves development and use of digital technologies to improve health. For health tourists and tourists receiving unplanned care during travel, these new forms of accessing health services have a number of benefits. Travellers can access health services where local health providers have access to patients' health information, ensuring patient safety, data encryption and security, and care continuity. In addition, patients can move freely worldwide, keeping in digital contact with their home health-care providers through telemedicine services accessible from any connected device. One of the challenges in health tourism – especially when patients travel to receive care and return to their place of origin – is ensuring follow-up by the caring team, which may be located in a different country. In this context, digital health can support integrated care pathways across borders by facilitating communication, treatment updates, and coordinated follow-up between international and home-based providers.

6.4.1 Digital health technologies to support people's mobility

Health-care providers are increasingly using digital health technology to enable patients and the public to manage their health and engage with health-care systems – a process that accelerated rapidly as services shifted online during the COVID-19 pandemic. Application of digital solutions to address specific issues during the pandemic was rapid, such as contact tracing applications and digital booking systems for COVID-19 testing and vaccinations. A number of key areas need to be developed further to overcome digital health barriers. These include:

- a lack of harmonized standards for data quality and reliability
- fragmented regulatory frameworks
- gaps in digital and health literacy and skills
- inadequate communications and technology infrastructure to support digital health
- inequalities in access to digital health
- data privacy and security
- systems interoperability.

Examples of digital health technologies in small countries in the WHO European Region have been reported by three of the six SCI countries that belong to the EU (Estonia, Luxembourg and Malta), which implemented electronic cross-border health services in February 2022. Health data of citizens from Malta can be consulted by physicians from Croatia, Czechia, France, Luxembourg and Portugal using patient summaries. Physicians from Malta can access health data of citizens from Croatia and Portugal, and those from Luxembourg can also access health data from Czechia and Malta. ePrescriptions of citizens from Estonia can be retrieved in pharmacies in Croatia and Finland.

Digital health has the potential to make tourism safer, and there are already many relevant applications. However, these rely on health information systems having appropriate infrastructure to connect patients and health-care providers. One such example is the eHealth Digital Service Infrastructure (Box 22).

Box 22. The eHealth Digital Service Infrastructure

Based on the EU's Cross-Border Healthcare Directive (see section 6.5.2), the eHealth Digital Service Infrastructure and other European initiatives are securing interoperability and exchange of health data that support people's mobility across Europe *(473,474)*. This infrastructure ensures continuity of care for EU citizens travelling within the EU. This gives EU countries the opportunity to exchange health data in a secure, efficient and interoperable way. The services are branded "MyHealth @ EU" to help citizens recognize when such services are available *(473)*. Electronic cross-border health services include patient summaries, ePrescription and eDispensation. Estonia and Finland were the first countries to exchange prescribed medicines electronically. It is expected that, by 2025, these cross-border health services will be implemented in 25 EU Member States.

Parallel to the deployment of MyHealth @ EU, the European Commission is also promoting development of alternative systems to health data exchange mediated by citizens. For instance, the InteropEHRate project, a research and innovation action funded by the Horizon 2020 programme, is developing open protocols that allow citizens secure access to personal health data from health-care providers from their smartphones, and enable them to share the data with other health-care providers, including those across borders *(475)*.

The European Health Data Space proposal, which was presented by the European Commission in May 2022, aims to regulate the transmission and sharing of health data across the EU for both private individuals and researchers or policy-makers *(476)*. The proposal is formed around two main pillars: primary use and secondary use of health data. The second focuses on greater availability of health data to support production of new and innovative medicines and devices. The proposal has a strong focus on data protection, since the aim is to put the individuals at the centre by empowering them to access, share or hide their health data as they wish.

6.4.2 Health information for tourism

Before travelling, access to reliable information about the health situation and availability of health services in the country of destination is vital, especially for travellers with pre-existing medical conditions. People planning to travel could benefit from advice on the potential hazards in their chosen destinations, and on how best to protect their health and minimize the risk of acquiring disease or injury through forward planning, appropriate preventive measures and careful precautions. Although the medical profession and the travel industry can provide extensive help and advice, including through pre-departure health services, it is often the traveller's responsibility to seek information, understand the risks involved and take relevant precautions to protect their health while travelling. This is not always done successfully, however, particularly as a result of infodemics and low health literacy levels. Social media networks can be used as an uncontrolled vehicle for spreading misinformation. In the context of COVID-19, such an infodemic can alter perceptions of travel safety and change travellers' behaviours, including vaccine confidence, voluntary health behaviours and interest in tourism activities *(477)*.

Essential health treatments and disease prevention for NCD emergencies such as heart attacks *(478,479)*, acute mental health deterioration, immunization strategies, sexual and reproductive diseases, HIV/AIDS, tuberculosis, viral hepatitis, and other communicable diseases have to be accessible for people in need and should not be interrupted. Digital health could assist here in predicting and analysing big data, while taking into account the generalization of population-based measures. Promising approaches already exist in some of these areas, such as the European Travel and Tropical Medicine Network for clinical experts, which supports the detection, verification, assessment and communication of travel-related communicable diseases – especially tropical diseases *(480)*.

Reliable health information provided by health authorities through easily accessible digital means, using misinformation countermeasures, is necessary to protect citizens and tourism *(481)*. However, it is of the utmost importance to note that differing levels of health literacy, patient empowerment and digital health literacy may also create inequalities between individuals.

6.5 Governance and leadership

Health systems governance means ensuring that strategic policy frameworks exist and are combined with effective oversight, coalition-building, provision of appropriate regulations and incentives, attention to system design, and accountability *(482)*. The health and well-being of tourists and host communities are determined by factors within the health system and beyond. Improved health outcomes and sustainable tourism management can only be achieved and sustained by working with all relevant public and private actors, across ministries, communities and allied sectors to cope with the tourism and health dimension *(483)*. In the tourism sector, this includes numerous subsectors, ranging from hospitality, culture and construction to transportation. While a comprehensive health system governance overview is out of the scope of this report, this section discusses aspects of health governance and tourism that play a crucial role in pandemic preparedness and resilience, as well as multisectoral cooperation and multilevel governance, governance of health financing, and international agreements, regulations and standards.

6.5.1 International regulations, and standards

As so much tourism is international, governance addresses international standards beyond national boundaries. The COVID-19 pandemic underlined the importance of established multinational arrangements, legally binding instruments and reciprocal agreements between countries.

6.5.1.1 IHR (2005)

The IHR (2005) are an overarching international legally binding instrument, which defines the rights and obligations of the 196 global State Parties in handling public health events *(174)*. State Parties – including all their sectors, ministries, officials and personnel – are responsible for implementing the IHR at the national level through:

- implementing surveillance systems that can detect acute public health events in a timely matter;
- assessing public health events and reporting those that may constitute a public health emergency of international concern to WHO through their national IHR focal point; and
- responding to public health risks and emergencies.

The IHR require all State Parties to assess international health risks within 48 hours and then to notify WHO within 24 hours. Qualifying events that are always notifiable are smallpox, poliomyelitis (polio) due to wild-type poliovirus, human influenza caused by a new subtype and SARS. Other potentially notifiable events include cholera, pneumonic plague, yellow fever, viral haemorrhagic fever, West Nile fever, and other biological, radiological or chemical events. The IHR permit WHO to consider multiple sources of information – not just official announcements – and to request verification of specific occurrences from concerned State Parties. This is followed by an exclusive communication between the notifying State Party and WHO on further incident assessment, possible investigation, and any relevant local or global public health response.

The IHR (2005) are of the utmost importance for international travel and global transport, with a guiding principle that international travel and trade should be as open as possible.

- Article 43 restricts IHR implementation measures to those that are supported by science, commensurate with the public health risk involved, and anchored in human rights.
- Article 40 states that tourists should not be charged by countries for possible health status examinations, vaccination or prophylaxis requirements that have not been published 10 days before arrival, appropriate isolation or quarantine, certificates specified by national public health measures, or any measures applied to their baggage.

They also comprise specific measures State Parties can adopt at ports, airports and ground crossings to keep in check and prevent the spread of health risks across borders. The aim is to avoid needless travel and trade restrictions that harm people or disincentivize countries reporting new public health risks. Since they facilitate international travel and protect health, compliance with the IHR is an important factor for many countries in the WHO European Region, which have some of the most competitive tourism destinations in the world *(18)*.

In April 2021, the IHR Review Committee on COVID-19 published 40 recommendations in 10 areas to strengthen implementation of the IHR (2005) *(484)*. Collective failures regarding obligations under the IHR were identified for compliance and empowerment; early alert, notification and response; and financial and political commitment. In order to prepare health systems for future health emergencies and protect the health of all, the Committee recommended that legal frameworks should be enforced, evaluation should be improved for accountability of authorities, and IHR national focal points should be organized, resourced and guided from the highest level of government. Data from 114 State Parties showed that countries with higher scores in implementing IHR at the national level were significantly more likely to reduce COVID-19 incidence and mortality *(485)*.

Resilient health systems require not only a whole-of-government approach but also cooperation, coordination and trust-building to guarantee safety equally and comply with the IHR (2005). IHR capacity-building needs to be done holistically, anchored in health system strengthening efforts. Further efforts should be made to reflect on lessons learned from IHR implementation in specific contexts, such as small countries. For example, it may be relevant to investigate small countries' inclusiveness and multisectoral expertise of COVID-19 advisory boards, their coordination among

neighbouring countries and/or within the EU, and their risk communication. Another topic for research might be the possible benefits of an informal communication culture, facilitating engagement with vulnerable and affected communities and civil society to raise awareness of public health and social measures to prevent disease spread in small countries.

6.5.1.2 The UN Tourism International Code for the Protection of Tourists

UN Tourism's International Code for the Protection of Tourists (ICPT) provides a comprehensive set of principles and recommendations for the protection of tourists in emergency situations and consumer (tourist) rights following COVID-19 *(486)*. By developing and harmonizing minimum standards at the international level, the ICPT aims to provide all tourism stakeholders, in both the public and private sectors, with practical guidance on how to assist tourists affected by emergencies. Although not legally binding, the ICPT features a voluntary implementation mechanism through its recognition of the role of the World Committee on Tourism Ethics, to which stakeholders may refer matters concerning application and interpretation of the document.

6.5.2 Agreements on cross-border patient mobility

Two important directives on cross-border patient mobility apply within the EU.

- The *Corrigendum to Regulation (EC) No 883/2004 of the European Parliament and of the Council of 29 April 2004 on the coordination of social security systems (487)* help labour mobility and tourism by ensuring that people – mainly workers – do not lose their social protection when moving to another EU/EEA country or to Switzerland.
- The 2011 Cross-border Healthcare *Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare (488)* enables an insured EU citizen who travels within the EU to access and reimburse safe and high-quality health care within and across national borders of the EU, including prescriptions, medicines and other medical products. Due to the coordination regulations (EC) No. 883/04 and 987/09 it further guarantees health care to insured travellers of the EEA and Switzerland, consisting of all EU Member States and Iceland, Liechtenstein and Norway.

Several categories of people travelling to the WHO European Region may need medical care, and their medical costs may be funded in various ways (Box 23). Many specific arrangements within the Region already facilitate cross-border patient mobility and strengthen patients' rights. Such mobility may be funded by the patients themselves, by national or regional government agreements, or by private medical insurance.

Box 23. Types of traveller in the WHO European Region

Categories of people travelling to the WHO European Region include the following.

- The first group is visitors whose medical treatment and reimbursement is covered by transnational regulations on cross-border health care, such as Directive EU/2011/24 on the application of patients' rights in cross-border healthcare (the Cross-Border Healthcare Directive) *(488)* and *Regulation (EC) No 883/2004 of the European Parliament and of the Council of 29 April 2004 on the coordination of social security systems (489)*. These fall into two categories:
  - unplanned health care of temporary visitors who fall ill in the country of destination or transit, which is covered by the European Health Insurance Card (Box 24); and
  - planned health care in EU and European Free Trade Association countries for people typically travelling abroad to receive cheaper, faster or better quality of health care, or to seek services that are prohibited in their home country, such as abortions or fertility treatment (a form of patient mobility for cost or quality differentials most closely approximated to "health tourism" *(490)*), which also refers to patients from the EU who request procedures inside the EU.

Box 23. contd.

- The second group is visitors from countries that are not included under the Cross-Border Healthcare Directive but that have bilateral agreements between the country of residence and the country of destination – mostly neighbouring states.
- The third group is visitors with private travel insurance or who pay for health care privately because they are not entitled by any government agreement to receive funded health care in the country of destination or for the medical services they seek.

The second and third groups of travellers may include patients from EU countries seeking treatments outside the EU, patients from non-EU countries seeking medical services within the EU, and patients from EU countries not covered under the Cross-Border Healthcare Directive seeking medical procedures outside the EU.

Although national governments are primarily responsible for the financing, administration and management of health care, the Cross-Border Healthcare Directive enables patients to exercise their EU citizenship rights and to choose their method of accessing health care. Thus, it promotes medical tourism across EU/EEA countries and Switzerland. The Directive further encourages the formation of networks – for example, for eHealth, health-care assessment technologies, diagnosis and treatment of rare diseases, and health workforce mobility. Only organ donations, public vaccination programmes and long-term care – including care at home – are not covered by the Directive *(488)*, and the regulations do not cover some private providers. Although only 0.05% of EU citizens make use of cross-border health care under the Directive each year, it has great potential to increase the quality and accessibility of treatment – for example, in the case of medical tourism for treatment of rare diseases *(491)*. As a result of the Directive, patient rights have been emphasized and benefit packages and tariffs adopted *(492)*. Further, following the universality of access to care for residents of the EU, quality of care, equal access to health care and solidarity have improved.

The agreement behind the European Health Insurance Card (EHIC) (Box 24) allows patients in one country access to emergency care in another when both are signatories. Some countries have their own agreements with partners, allowing citizens of each to use the other's services on a reciprocal basis. These usually allow only limited access to free services, so tourists are advised to ensure that they also take out comprehensive personal health insurance to cover complex and expensive care. Such directives and international agreements focus on health-care costs for foreign patients. The financing of tourism-related health issues for the host community is not calculated explicitly, yet it needs to be considered for effective resource allocation.

Box 24. EHIC

The EHIC allows EU travellers and migrant workers the same terms of reimbursement as nationals of the country of destination. Individuals who are covered by the EU health system and fall ill unexpectedly during holidays, a business trip or any other temporary stay in another EU country are entitled to any emergency treatment.

While medical tourism has been perceived as a driver of the EU health-care market in the private sector *(493)*, the EHIC functions as a public health care system connector. It was developed to provide access to unplanned care during temporary stays for migrant workers, business people, tourists, students, job seekers and pensioners across EU Member States. However, studies have shown that, in some cases, countries have placed barriers on health-care coverage of Europeans – for example, through habitual residence requirements for migrant workers *(494)*. The EHIC has been found to amplify social inequalities in the access to social citizenship rights in east–west mobility across regions and classes. Increased patient mobility with the EHIC from eastern Europe to western Europe resulted in a much higher relative financial burden for the budgets of eastern Europe, thus reinforcing social inequalities between and within EU countries *(133)*. Aligning with aspects discussed in Chapter 3, inequalities in tourism exist among consumers, just as they do among tourism producers, local communities and tourism enterprises *(495)*.

Box 24. contd.

At the same time, cross-border patient mobility is more likely among younger and more highly educated travellers, as well as those from smaller countries *(496)*. Inhabitants of smaller countries are more likely to seek health care abroad for special treatment *(497)*. However, research has shown that cross-border health care might reduce quality in the patient-exporting country instead of the receiving country because it diverts resources from local health-care systems. As patients seek treatment abroad, domestic demand may fall, leading to fewer incentives to improve local care. Additionally, the financing structure in these countries may become less progressive, as public funding might be influenced by the loss of high-income patients who seek treatment abroad *(498)*.

While decisions on health service funding and investment to support the tourism industry remain a challenge for governments, in a globalizing world, patient mobility takes public health policies beyond national borders *(499)*. In 2020, health-care reimbursement under the Cross-Border Healthcare Directive accounted for €77.5 million *(500)*. Nevertheless, this is a relatively small proportion of total government expenditure on health care, at only 0.01%.

The number of citizens seeking reimbursement under the Cross-Border Healthcare Directive (200 000) is small compared to the 2 million unplanned treatments abroad, highlighting the relatively low uptake of planned cross-border health care. Despite this, in 2019, fewer than 20% of EU citizens were aware of their rights to cross-border care, emphasizing the role of the growing medical tourism sector and the need for effective communication strategies to raise awareness. Moreover, travel restrictions and prioritization of COVID-19 treatment might account for the decrease in requests for authorization of planned medical treatment abroad and authorized treatments – which both fell by about 22% in 2021 compared to 2019 *(500)*.

6.5.2.1 Governance of health financing in tourism settings

Health financing can ensure equal access to high-quality health care, create financial incentives for providers, and make available and allocate funds *(483)*. It is key to establishing who pays for care, when they pay, how much they pay, who they pay and obtain services from, and what types of services they can receive – including in tourism settings. Governance of health financing has two key aspects: coverage policies and public financial management.

Coverage policies related to tourism involve decisions on who is covered by health care, what services are included and any access restrictions. Moreover, these policies influence the performance of the health-care system and its progress towards achieving universal health coverage. Coverage policies in tourism settings are closely intertwined with other financing aspects, such as revenue generation and cost sharing in the medical tourism field, and they can have an impact on the quality and accessibility of health-care services, including for tourists.

Public financial management refers to the rules and mechanisms governing the allocation, use and accountability of public funds in the health sector, which can have important spillover effects on the tourism sector. When public financial management and health financing systems are aligned, they can support each other's objectives, leading to more effective and efficient use of public funds and greater financial accountability and transparency. Public financial management is important for linking policy and budget decisions, strategic priorities and performance in the health-care sector.

Countries in the WHO European Region have different financing schemes for their health systems, funded either through government schemes (revenues, taxes) or through compulsory or voluntary health insurance. Out-of-pocket payments still need to be met by the individual – mainly for medicines, dental care and other services not covered by health insurance or government financing. These differ hugely across the Region, and some countries have much higher proportions of out-of-pocket payments than the EU average of 10%. Out-of-pocket payments are often closely related

to medical tourism; they may be incurred, for example, for travelling for cancer treatment, dental care or abortion, as well as emergency care of tourists outside their national insurance system (see section 4.4) *(501–505)*.

Government allocation of funding is a complex matter, determined within the budgeting and resource allocation process. It requires reliable information on what additional needs tourism imposes for tourists and the host community. In part, it depends on the type of services provided, such as when (year-round or seasonal activities) and where (for example, specific tourism locations) they are provided, and whether they are related to specific tourism activities (such as winter sports or bathing tourism). It is also relevant to consider who covers tourism-related health costs when an individual moves location. Evidence suggests that patients travel abroad to receive treatment, but when complications arise, they are usually treated in the person's country of residence *(138)*.

However, investment in health protection and services to promote good health is closely related to economic development. It is fundamental for securing people's living standards, quality of life, and ability to work and travel. A study on an economic system's ability to advance sustainable tourism, preparedness for financial crisis, and economic health and wealth in 80 countries showed that inbound tourism has a positive relationship with energy demand, health expenditure, per capita income, foreign direct investment inflows and trade, while outbound tourism is associated with increased health expenditure *(506)*. Tourism generates economic activity, and taxes on economic activity are a major source of government income – and consequently public investment for health *(31)*.

6.5.2.2 Cross-border mobility between EU and non-EU countries and border regions

Some countries in the WHO European Region have established health-care regulations with neighbouring countries – especially those not included under the Cross-Border Healthcare Directive and the EHIC. For example, Andorra has an agreement with France and Spain on transnational patient mobility, Monaco has regulations for cross-border patient mobility with Italy and Spain, and San Marino cooperates closely on health care with Italy *(507)*.

Border regions, in general, have special characteristics that can lead to economic challenges and underdeveloped health system infrastructure, although they make up around 40% of the EU's territory and are inhabited by one third of EU citizens *(508)*. Cross-border agreements are not only a common tool to tackle higher unemployment rates in marginalized border regions but also offer opportunities to deal with insufficient health-care supply, especially in landlocked small countries.

The governments of Estonia and Malta have reported fears of people travelling abroad for treatment due to long domestic waiting times, or for expensive care abroad that needs to be reimbursed domestically *(492)*. Although the Cross-Border Healthcare Directive tries to overcome waiting lists and shortages of domestic provision, and to offer highly specialized services *(509)*, small countries not covered by the Directive may face additional challenges to attract patient influx.

In the case of many patients travelling for health care to another EU country, the outflow of public funding could threaten the sustainability of domestic health system financing. Generally, the Cross-Border Healthcare Directive is expected to have a greater financial impact on small countries, especially if domestic expenditure increases as many patients travel abroad for better quality care in larger countries *(510)*. Mobility of health-care professionals and decreased numbers of patients, leading to less clinical expertise, is also a matter of concern in small countries. Further, experience shows that administrative processes can limit cross-border care, especially if higher costs of inpatient health care in the receiving country have to be covered by health insurance companies in the country of residence, as reported for Czech patients receiving care in Austria *(508)*. Assuming that predominately wealthy and well-informed patients travel abroad for planned health care, the Directive could also be a factor in introducing intra-individual inequalities beyond systematic differences in how countries handle reimbursement of health care *(509)*.

Health-care professionals in European border regions have reported challenges specific to cross-border handovers. Among the most important are information transfer, language barriers, variety in

task division and education, differences in financial and political structure, and cultural differences *(511)*. As the handover of patients across borders is always a unique challenge, possibly involving loss of information and miscommunication, there may be a need for tools and procedures, alongside discussion and formalization of collaboration at the government level. Tourists' communication barriers and their unfamiliarity with local health-care organization can also be risk to patient safety in a variety of in-hospital settings *(512)*.

6.5.3 Multisectoral cooperation and multilevel governance for health and tourism

Multisectoral strategic planning, multilevel governance (international, national and subnational) and coordination are key for sustainable tourism management: from routine operations to multihazard response planning, emergency management and recovery, and system transformation. This section lists some examples of multisectoral strategic planning.

- **International, national and subnational health plans, policies and regulations on tourism** help to prevent and to protect the population and tourists from major tourism-related health risks and/or address the quality of health service delivery. These include emergency health plans for tourism, health infrastructure safety, health and tourism workforce protection, and clear, updated and transparent communication. In developing national health emergency planning and management structures, tourism could be included from the start.
- **National cooperative agreements between the health and tourism sectors** could define clear roles and responsibilities for transparency, accountability and effective partnerships.
- **Cross-border and cross-sector cooperation** are particularly important during emergencies, and rely on having arrangements in place to ensure that tourists travel safely and healthily.
- **Decent employment conditions and access to universal, comprehensive, adequate and sustainable social protection** are essential in the health and tourism sectors, placing value on the livelihood, health and well-being of workers. This involves availability, accessibility, security, wages, physical and mental needs, safety in the workplace, and protection from inequality – including improving regulations and addressing inadequate labour and social protection related to precarious work.
- **Policies and information to protect local populations** are needed – particularly protection from gentrification, increased consumer prices, rises in property and rental prices, changes in food quality, water and sanitation, and the effects of overloaded waste management services. One important aspect is to address ways that tourists can safeguard the host community and protect cultural heritage and the local environment.
- **Adequate regulation of health and medical tourism** helps to ensure quality and safety.
- **Improved governance** ensures availability of sufficient and appropriate health workforces to support the recovery of tourism after the COVID-19 pandemic.
- **Advocating control of vaccine-preventable diseases** – for example, through the *European Vaccine Action Plan (2015–2020) (513)* – also addresses inequalities between and within countries. Vaccination has found to be an important tool for reopening of tourism destinations and recovery from the COVID-19 pandemic, restoring tourist confidence and opportunities for safe travel *(514)*. In general, vaccines are an essential element of health protection of tourists and local populations; thus, tourism recovery can be aided through lifting restrictions on vaccine supply and delivery.

Multilevel policy coordination among ministries, administrations, employers and associations affected by tourism can greatly enhance governance *(470)*, and engagement between governments and populations, communities and civil society (including the host community and health tourism workers) are crucial *(483)*.

Multisectoral regional and international partnerships with health and tourism stakeholders are also needed to improve services for travellers across regional and international borders. For example, strategic public–private partnerships can help to ensure social protection and recovery after the COVID-19 pandemic, such as partnerships with sustainable micro, small and medium-sized enterprises in need of support to revitalize their businesses. Indeed, partnerships and collaboration

with tourism entities and other private institutions are of paramount importance to gain buy-in and implementation beyond the health sector, as experience from the Caribbean's Regional Tourism and Health Program has shown (Box 25). As the majority of countries in the Caribbean have populations of fewer than 2 million people, this example from another WHO region may provide insight relevant to the small countries in the WHO European Region.

Box 25. Example from the Caribbean: the Regional Tourism and Health Program

The Regional Tourism and Health Program of the Caribbean Public Health Agency in collaboration with the Caribbean Hotel and Tourism Association, Caribbean Tourism Organization and countries is a multisectoral programme addressing health, safety and environmental sanitation threats to tourism. It aims to strengthen countries' capacities to prepare for and respond to cross-border public health threats, and to ensure the health and safety of visitors and locals, regional health security, and the quality, reputation and sustainability of Caribbean tourism *(515)*. Apart from Haiti and Jamaica, all 24 Member States in the Program are small countries with 2 million inhabitants or fewer.

The Program has developed:

- a real-time, web-based early warning and response travel/tourism and health information system;
- a surveillance system from a comprehensive network of traveller health information, including for air travellers, hospitals/health centres, accommodation, cruise ships and other vessels (via the Caribbean Vessel Surveillance System), laboratories and environment, media reports, and public health agencies via the Caribbean Travel Health Network;
- regional guidelines for science-based harmonized responses to travel-related public health issues among visitors to the Caribbean arriving by sea and air;
- capacity-building for food safety, with globally recognized certification;
- Caribbean-wide "clean, green and safe" hospitality health safety and environmental standards on energy management and efficiency, food safety and sanitation, environmental management systems, integrated pest management, sewage treatment and management, solid waste management, water treatment, management and efficiency for the tourism industry;
- multisectoral regional and international partnerships with health and tourism stakeholders for seamless information flow and response to traveller illness across regional and international borders;
- regional policies to promote reporting of illness from the hospitality sector to national health authorities;
- sustainable mechanisms for national implementation of the Program as part of countries' overall health and surveillance systems;
- the Caribbean Travellers Health Assurance Stamp for Healthier Safer Tourism for tourism entities and destinations that are implementing the recommended proactive COVID-19 health monitoring and safety measures; and
- the Caribbean Travellers Health Application, providing information for each Caribbean destination on vaccinations, health-care facilities, accommodation listings (including those with the Caribbean Travellers Health Assurance Stamp), health alerts for current public health issues, COVID-19 proactive/prevention measures and unique travel requirements by country (such as testing, health screening, pre-approval and tracking).

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7. Inclusive and accessible tourism for health and well-being

Box 26. Key messages on inclusive and accessible tourism for health and well-being

- **Inclusive tourism removes barriers to people engaging in tourism activities and employment**, ensuring that all aspects of the tourism experience are accessible, welcoming and respectful for tourists of diverse backgrounds, abilities and requirements, while breaking down walls between locals and visitors.
- **Inclusive tourism promotes health and well-being** by fostering environments and services that prioritize accessibility, cultural sensitivity and holistic community health, which can reduce health-care demand and support ageing in good health.
- **Tourism employment can drive equity** by providing economic empowerment, access to resources and involvement in decision-making for women, migrant workers, young people, Indigenous people, those with disabilities and rural populations.
- **Effective inclusive tourism involves engaging local and under-represented communities** in planning and decision-making, collaborating with nongovernmental organizations (NGOs), accessibility experts and cultural organizations to meet the diverse needs of all tourists.
- **Availability of medical infrastructure, such as hospitals, clinics and pharmacies, is crucial for reducing perceived travel risks and influencing destination choice**, especially for older adults, those travelling with children and individuals with disabilities.

Since the COVID-19 pandemic, inclusive tourism development has gained attention, with a focus on inclusion of all genders, ages and vulnerable community groups, as well as accessibility of tourism and travel for older and people with disabilities and their caregivers and families *(90,516,517)*. The UN Tourism Framework Convention on Tourism Ethics *(518)*, adopted in 2019, notes in Article 5 that:

> *Tourism activities should respect the quality of men and women should respect the equality of men and women; they should promote human rights and, more particularly, the individual rights of the most vulnerable groups, notably children, the elderly, persons with disabilities, ethnic minorities and Indigenous peoples.*

Inclusive and accessible work environments in tourism sectors engage employees from various backgrounds, also reflecting the diversity of tourists. Tourism employment can be an important driver of equity for women, migrant workers, young people and rural populations through economic empowerment, access to resources, involvement in decision-making and participation in community life *(397)*. Education and regular training on cultural competency, disability awareness, unconscious bias and antidiscrimination practices are critical to fostering an inclusive workforce.

In addition, inclusivity in tourism seeks to ensure that all aspects of the tourism experience are accessible, welcoming and respectful for tourists. Tourists are not a homogeneous group but have diverse backgrounds, abilities, preferences and needs, shaped by their age, gender, religion, culture, physical and mental condition, and socioeconomic background. Research shows that many people refrain from travelling because they are unsure whether their needs will be met *(519–521)*, and that some tourists may rely on people accompanying them – for example, people with disabilities, children and older adults *(522,523)*. Bias based on gender, race, age, religion, disability, sexual orientation or socioeconomic status should be addressed explicitly, with a focus on welcoming diverse guests, including lesbian, gay, bisexual, transgender, intersex or queer (LGBTIQ+) travellers, families and solo travellers, and distributing benefits from tourism equitably.

Addressing individual requirements and backgrounds requires tourism stakeholders to communicate clearly and inclusively about the accessibility and inclusivity of a destination. This includes:

- providing accessible information for all through multilingual and easy-to-understand digital tools, resources and platforms;
- catering to people with disabilities, incorporating features such as screen-reader compatibility, captions or large fonts; and
- addressing challenges for those in rural areas, with limited internet access, or who are less used to digital tools and technologies.

Health, well-being and health equity are foundational to inclusive tourism because they ensure that all individuals – regardless of their physical, mental or social conditions – can access and benefit from travel experiences fully, while tourism itself provides a unique platform to address disparities by fostering environments that prioritize accessibility, cultural sensitivity and holistic community health. Tourists value specialized medical services as a health guarantee, with facilities like international clinics and hotel-based doctors enhancing their sense of security. Health equity for tourists, tourism workers and local communities is essential in inclusive tourism research because disparities in access to health services and conditions can significantly affect the safety, well-being and participation of these groups in tourism activities. WHO's Health Inequality Data Repository, along with global research on social determinants of health, provides critical data to identify and address these inequities, facilitating design of tourism policies and environments that promote fair health outcomes for all involved *(524)*. Many destinations are investing in health infrastructure to attract both medical tourists and leisure travellers seeking health-oriented services *(525,526)*. Availability of medical infrastructure such as hospitals, clinics and pharmacies significantly reduces perceived travel risks, and influences destination choice. This is especially important for older adults, those travelling with children and individuals with disabilities *(527)*.

Travellers generally expect health-care standards abroad to align closely with those of their home countries *(525)*. Health-care standards also seem to be especially critical for small island economies that are geographically isolated, as they may need to offer tourists additional assurances of safety and health during their stay *(528)*. Inclusive tourism can help to reduce health-care demand by promoting healthy lifestyles and active ageing, which ease the burden on health services *(529)*. Promoting inclusive tourism involves creating age-friendly environments that cater to the physical, social and economic needs of travellers of all ages – considering, for example, that in the EU less than half of the remaining life expectancy at age 65 is lived free of disability – and with large socioeconomic inequalities *(530)*. Additionally, it stimulates local economies, creating jobs and funding that can be reinvested in health-care infrastructure and workforce development. Inclusive tourism is essential for both older and younger travellers, addressing the diverse requirements of these age groups. Ageism can have an impact on travel experiences: older adults often face barriers in

accessibility and service quality, while younger people – including children with their families – may encounter challenges related to safety and affordability *(520,531,532)*.

Inclusivity is inseparable from community engagement and building networks with local and under-represented communities for joint planning and decision-making. It also entails collaboration with NGOs, accessibility experts and cultural organizations that promote accessibility and actively seek out opportunities to meet the diverse needs and access requirements of all tourists *(520,531)*. Inclusive tourism marketing seeks to represent individuals from various ethnicities, ages, genders and abilities authentically, fostering a sense of belonging and avoiding tokenism.

Health and tourism data systems must account for diversity and avoid excluding marginalized populations. Considering data on health disparities in tourism policy development can help not only to close gaps but also to guarantee access to basic health services for all without discrimination. This includes implementation of clear guidelines to prevent discrimination within the sector, and to educate tourists and tourism workers about their rights.

Governance for inclusive tourism is also concerned with reducing financial barriers and ensuring that costs are communicated transparently. Moreover, previous crises have highlighted the importance of enhancing emergency preparedness in tourism, ensuring that the health and well-being of tourists, tourism workers and local communities is equally protected, specifically considering the needs of vulnerable and marginalized groups. The interconnection between tourism, sustainable development and health equity is increasingly being integrated into international and national tourism policies, emphasizing their mutual benefits *(525)*. This integrated approach can also be applied effectively at the local level, enabling destinations to promote physical and mental health for both residents and visitors while addressing social, cultural and environmental concerns alongside economic well-being. Inclusive tourism can have beneficial spillover effects on the entire local community, such as building more accessible and inclusive public spaces and offering opportunities for social, economic and cultural equity at the community level *(525)*.

Promoting inclusive tourism requires a shift from exceptionalizing and objectifying marginalized and minority groups to normalizing diversity as an integral part of the tourism experience. This entails fostering destinations where inclusivity is standard practice, and embracing a workforce culture that provides equal opportunities for individuals of all abilities and backgrounds to contribute to the tourism sector. Chapter 6 explored how health systems can be equipped to address health needs in tourism settings. The focus of this chapter is on designing and managing tourism destinations to promote health and well-being for all. While the need for intersectional analysis across all major categories of discrimination in the health and tourism sphere is crucial, this chapter highlights the gender considerations in health and inclusive tourism, and links between health and inclusive tourism for people with disabilities and local and Indigenous communities, in line with UN Tourism's inclusive recovery guide in the post-pandemic area *(533)*.

7.1 Inclusive tourism for health and well-being of women

Women make up around 54% of the workforce in tourism; of these, most are young (under 35 years old), and a large proportion are migrants. Women are more likely to have seasonal, part-time, low-paid and low-skilled employment, while men hold more leadership and management roles and higher paid positions in the hotel, restaurant and catering sector, leading to horizontal and vertical segregation in tourism employment *(534)*.

For example, in 2023, women constituted 58% of workers in European tourism industries, including making up 59% of the workforce in the accommodation sector *(535)*, although the percentages vary greatly across countries, with the highest in Latvia (approximately 81%) and lowest in Malta (33%). Women tend to dominate positions in hotels, restaurants, canteens and catering subsectors, while men are more prevalent in jobs such as bartending, chef roles and portering.

While previous discussions have underscored the impact of tourism on gender equality, more nuanced aspects have often been overlooked *(397)*. Addressing gender-segregated labour market data, safety concerns, under-representation of women in decision-making, gender stereotypes and GBV, while engaging local communities in tourism planning, is crucial for leveraging sustainable tourism as a tool for promoting gender equality *(87)*.

The impacts of the COVID-19 pandemic on employment, unpaid work and well-being have also been closely linked to gender disparities *(536,537)*. Traditional gender roles, stereotypes and responsibilities at home and in the workplace – influenced by cultural traditions and workplace culture – may prevent women from occupying executive positions in tourism *(536)*. Although men's employment declined more than women's overall during the pandemic, resulting in a narrowing of the gender employment gap, evidence from EU countries suggests that women's paid work declined due to decreased labour demand in sectors where women are more likely to work, including the hospitality and travel sectors *(538)*. In relation to traditional gender norms and employment, women's unpaid work may also have increased due to taking on extra childcare duties and household chores resulting from school and childcare closures and reduced availability of domestic help. Additionally, differences in labour market policies, school closures and the extent of job teleworkability may have contributed to the disparities in the gender impacts of the pandemic *(86)*.

WHO's *Strategy on women's health and well-being in the WHO European Region (539)* calls for a multisectoral approach to eliminate discriminatory values, norms and practices that affect the health and well-being of girls and women, preventing and eliminating the impact of gender and social, economic, cultural and environmental determinants *(423)*. Since the COVID-19 pandemic, UN Tourism has reinforced efforts on policy and education to tackle the gender pay gap in tourism, prevent sexual harassment and abuse in the tourism sector, challenge gender stereotypes, and support female entrepreneurship *(536)*. It has also suggested various measures to improve policies; bolster collaboration with women's tourism networks, NGOs and tourism cooperatives; and address the lack of high-level women's leadership and participation in decision-making spaces in public sector tourism bodies and agencies.

The associated downturns in women's health due to gender and income inequity do not only increase the poverty risk of older women. The tourism workforce in temporary or part-time employment and younger workers are also at higher poverty-associated risk of poor health *(85)*. Fiscal constraints and bureaucratic procedures required to access basic income security and social protection are an additional barrier to improving health outcomes *(540,541)*.

Differences in income are one of the major factors leading to poor health; they also represent an additional burden to the health system *(542)*. For women, parental leave policies and statutory pensions can be protective against income insecurity in the tourism sector, while investment in social protection for families and children serves to reduce early health inequities and support parents with low incomes *(543,544)*. Social protection programmes for the older tourism workforce and statutory pensions can help to prevent differences in and generally avoid health risks, improve access to health services and work performance, and provide financial security in later life *(542,545)*.

At the same time, it is crucial to explore the interconnections among gender, social, economic, cultural and environmental factors that affect men's health and well-being, including enhancing understanding of how gender norms and roles and their intersections with other health determinants within tourism settings affect the response of health systems to men's health needs *(402)*. Gender intersects with factors such as ethnicity and migration, leading to greater inequalities, for instance, among migrant workers and women from marginalized socioeconomic groups in tourism. This intersection also leads to variation in health risks, access to and use of services, responses of providers, and health outcomes among women and men *(534,402)*.

UN Tourism's gender-inclusive strategy for tourism businesses provides resources and tools to assist tourism companies in the private sector, regardless of their size or type, in implementing successful and coherent approaches and initiatives for promoting gender equality throughout their activities *(537)*. Moreover, addressing the disparity between paid and unpaid care, engaging men in preventing

violence against women, and promoting shared responsibility for reproductive health involves men in achieving gender equality *(546)*.

The interplay of gender norms and economic status also shapes travel decisions significantly. Work, family and household obligations affect the leisure time available for tourism, and women face higher constraints because care work, societal norms and economic factors influence their travel choices and quality. Women are more likely to cite personal or financial reasons for not travelling, but are also more likely to travel for career-related purposes *(397)*.

Gendered risk perceptions and safety measures further shape women's travel routes and experiences *(547)*. Safety and security measures are crucial to protect marginalized groups, including women, LGBTIQ+ travellers and others who may face harassment. In examining tourists' risk perceptions, one study discerned gender-specific variations in concerns related to physical violence, personal safety and sexual harassment or assault *(548)*. Notably, women exhibited heightened perceptions of risk during travel, while male tourists faced a greater perceived risk of suicide and engagement in physical altercations. This nuanced contrast aligns with entrenched gender norms, where risk-taking is often associated with the construct of masculinity, contrasting with the societal expectation for femininity, which values risk aversion. It is imperative to recognize, however, that past experiences, tourists' origin, travel group composition, destination reputation, tourist role and cultural background can collectively shape both risks and risk perceptions.

Safety in city centre urban spaces is often a concern for women, whether tourists or residents – especially at late hours when shops are closed and fewer people are walking in the streets. This heightened concern for personal safety influence women's walking behaviour in urban spaces *(549)*.

Acknowledging these gender-specific nuances is crucial for sustainable tourism initiatives aimed at promoting health for all. Consequently, it is imperative to identify and address the intricate interplay between physical and social environments that contribute to gendered risks *(548)*. This holistic approach ensures that tourism strategies are not only inclusive but also responsive to the diverse and gender-specific dynamics that influence perceptions of safety and well-being. This may stretch to health services being inclusive, specialized and patient-centred for women, transgender and non-binary individuals, including stigma-free mental health services.

Although no country in the WHO European Region has achieved gender equality, introducing gender mainstreaming can institutionalize a gender perspective in tourism, ensuring that gender equality strategies persist independently of political shifts *(402)*. As aptly noted by UN Tourism, the synergy between gender equality and tourism strategies is most effective when it enables tourism development from a gender perspective, rather than adapting gender equality to the tourism sector, emphasizing the need for an integrated approach *(534)*. Gender considerations are also crucial for LGBTIQ+ people (Box 27).

Box 27. Inclusive tourism for LGBTIQ+ people

In the realm of LGBTIQ+ health and tourism, disparities across countries and regions come to the fore. LGBTIQ+ health encompasses the overall well-being of individuals identifying as lesbian, gay, bisexual, transgender, intersex or queer, with the plus sign acknowledging the diverse range of sexual orientations, gender identities, expressions and sex characteristics *(550)*. In tourism, common challenges affect the health and well-being of LGBTIQ+ individuals, although these vary across countries and regions. Challenges in accessing appropriate health care may drive LGBTIQ+ individuals to travel for necessary services *(551)*. Conversely, travel and tourism can expose them to risks in obtaining high-quality health care compared to their home country *(552)*.

Box 27. contd.

Stigma, discrimination and human rights violations – including violence and discriminatory attitudes and behaviour within health-care settings based on sexual orientation and gender identity – pose significant barriers, affecting physical and mental well-being.

WHO advocates inclusive health systems and policies, rooted in the principle of universal access without discrimination *(550)*. Recognizing the vital intersections between SDG 3 and SDG 5, gender and rights-based approaches are deemed essential for transformative and sustainable progress *(553)*.

7.2 Inclusive and accessible tourism for health and well-being of people with disabilities

Around 135 million people are living with some form of disability in the WHO European Region *(554)*. The United Nations Convention on the Rights of Persons with Disabilities *(555)* states that:

> *Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.*

According to WHO *(556)*, disability has three dimensions:

- impairment in a body structure or function, or in mental functioning – for example, loss of a limb, loss of vision or memory loss;
- activity limitation, such as difficulty seeing, hearing, walking or problem solving; and
- participation restrictions in normal daily activities, such as working, engaging in social and recreational activities, and obtaining health care and preventive services.

Health conditions may include:

- conditions beginning at birth and possibly affecting functions later in life, including cognition (memory, learning, and understanding), mobility, vision, hearing, behaviour and other areas – which may result from:
  - disorders in single genes, such as Duchenne muscular dystrophy;
  - disorders of chromosomes, such as Down syndrome; and
  - infections of the mother during pregnancy (for example, rubella) or consumption of substances during pregnancy, such as alcohol or cigarettes;
- developmental conditions appearing during childhood – such as autism spectrum disorder and attention-deficit hyperactivity disorder;
- conditions resulting from injuries, such as a traumatic brain injury or spinal cord injury;
- longstanding conditions, such as from diabetes, which can cause a disability such as vision loss, nerve damage or limb loss; and
- conditions that are progressive (for example, muscular dystrophy), static (for example, limb loss) or intermittent (for example, some forms of multiple sclerosis).

People with disabilities face structural disadvantages, such as limited access to health care, education, employment and community participation, as well as heightened exposure to poverty, violence and discrimination. These factors all also have an impact on their opportunities to engage in

travel and tourism *(554,557)*. On average, people with disabilities have higher health-care needs than others, but face many barriers in receiving the disability-related services they require, and experience exclusion from many activities – including from tourism.

The *WHO European framework for action to achieve the highest attainable standard of health for persons with disabilities 2022–2030 (558)* aims to ensure high-quality health services, promote health and well-being, implement disability-inclusive policies, and build a robust evidence base (Fig. 8). These objectives focus on providing equitable health care, addressing wider health determinants, involving people with disabilities in policy-making, and using reliable data to inform decisions and monitor progress.

Fig. 8. Outline of the *WHO European framework for action to achieve the highest attainable standard of health for persons with disabilities 2022–2030*

Source: WHO Regional Office for Europe *(558)*.

Challenges in tourism for people with disabilities include physical barriers – such as inaccessible infrastructure – and systemic issues like a lack of inclusive policies and accommodations. Financial limitations and insufficient awareness or training among tourism providers also hinder accessibility *(557)*. Inaccessible transport, accommodation and tourism activities can further isolate people with disabilities, exacerbate existing inequalities, reinforce negative attitudes towards disability, and make it difficult or impossible for people with disabilities to participate in tourism. In turn, limited opportunities for social and economic inclusion can have negative impacts on health outcomes.

Tourism activities and events can lead to injury or illness, including the following examples.

- People participating in adventure sports, such as skiing or skydiving, may be at risk of **injury or accidents** that can result in disabilities.
- Travellers may be exposed to **illness or infectious diseases**, such as malaria or dengue fever, which can lead to long-term disabilities or chronic health conditions.
- Tourists may be exposed to **environmental hazards** such as extreme heat or pollution, which can contribute to the development of chronic health conditions and disabilities.

Further, for individuals with pre-existing disabilities or chronic health conditions, travelling may present additional challenges or risks that can exacerbate their condition.

Workers in the tourism industry, such as hotel or restaurant staff, may be at risk of developing musculoskeletal injuries – such as back or shoulder pain – as a result of heavy lifting, repetitive tasks or standing for long periods of time. Workers who interact with large numbers of people, such as flight attendants or tour guides, may be at risk of exposure to infectious diseases, which can lead to long-term health problems or chronic conditions. It is important for employers and tourists to take necessary precautions and to be aware of potential risks and hazards associated with tourism-related activities and workplace hazards in order to minimize the risk of injury or illness.

Nevertheless, inclusive and accessible tourism can provide significant health benefits for people with disabilities. It fosters mental well-being, promotes physical activity, creates opportunities for social interaction and inclusion, and offers opportunities to experience new environments and cultures, which can have positive impacts on people's physical and mental health *(559)*. Participating in leisure activities and exploring new environments can help improve self-esteem and combat isolation, contributing to overall health and quality of life. Inclusive and accessible tourism can reduce health disparities and support integration of people with disabilities into mainstream health systems – not only benefiting individuals with disabilities during tourism but also contributing to the overall inclusivity and resilience of health systems *(560)*.

Public transportation that includes wheelchair-accessible vehicles and ramps can facilitate ease of travel for people with specific access requirements. Accommodation should embrace universal design principles, such as wheelchair-friendly layouts, hearing and visual aids, and allergen-free spaces. Tourism activities should be barrier-free, offering inclusive attractions like tactile guides in museums or adaptive equipment for outdoor adventures. At the same time, accessible and inclusive design of universally accessible infrastructure and adopting disability-inclusive policies can also make tourism activities more equitable for all age groups and family configurations.

It is important to note that many people with disabilities travel with carers or other accompanying people, and may explicitly seek health tourism offers. For example, globally, approximately 2.41 billion individuals – constituting at least one in every three people worldwide – have required rehabilitation services, primarily driven by musculoskeletal disorders, highlighting the need to bring rehabilitation closer to communities for broader accessibility *(561)*. Access to rehabilitation for people with disabilities – including coverage for medical rehabilitation, assistive devices, therapy and adherence – varies widely across studies, but generally appears to be low *(562)*. This highlights the importance of improving access to rehabilitation services, which can be integrated into health tourism to enhance the overall well-being of individuals with disabilities.

To promote universal accessibility in all tourism facilities, products and services to all individuals, UN Tourism provides resources, guidelines and recommendations for both public and private sectors to incorporate accessibility into their policies and business strategies. These include resources for sectors such as transportation, including tour operators, travel agencies and travel agents; cultural tourism key players; accommodation; food and beverages; meetings, incentives, conferences and exhibitions; and public administration to facilitate alignment with UN Tourism's inclusive recovery guide for people with disabilities *(517)* and the guide to reopening tourism for travellers with disabilities *(563)*. UN Tourism further acknowledges the relative lack of research carried out into the topic of accessibility in nature areas *(564)*.

Examples to enhance inclusiveness for people with disabilities in the tourism sector include the Accessible Tourism Destination award *(565)*, the Gondolas 4 All scheme in Venice, Italy *(566)*, Wesemann Travel – a service catering to deaf travellers *(567)*, and Ruta Accesible – an online tool providing information about several countries for tourists with reduced mobility *(568)*. UN Tourism's 2025 compendium *Advancing accessible tourism for destinations, companies and people* highlights further best practices and real-world examples from the International Conference on Accessible Tourism, illustrating both achievements and ongoing challenges faced by governments and businesses in making tourism more inclusive and accessible for all *(569)*. Engaging stakeholders and empowering individuals with disabilities in planning and decision-making can foster environments where inclusivity thrives *(557)*. Such efforts align with broader goals to ensure equal opportunities and respect for human rights.

7.3 Inclusive tourism for health and well-being of Indigenous communities

Indigenous people have historically faced discrimination, displacement and resource depletion, prompting the United Nations to adopt the Declaration on the Rights of Indigenous Peoples in 2007 *(570)*. The Declaration serves as a cornerstone for addressing these challenges, with a focus on governments endorsing and implementing legislation to protect Indigenous rights to health, traditional health practices, sanitation, and physical, mental, spiritual, moral and social development.

The COVID-19 pandemic highlighted the historical discrimination and risks of severe hardship, illness and death faced by Indigenous communities, exacerbated by limited access to essential services and health care, as well as the scarcity of social and economic structures that cater for the communities' needs. Inclusive tourism can ensure equitable access to public services and health-care systems, as well as economic stability for Indigenous communities. Culturally sensitive health care respects traditional practices and beliefs of the communities. Moreover, integrating culturally sensitive mental health services into primary care helps Indigenous people access psychological and psychiatric support without stigma, fostering overall well-being and resilience in Indigenous tourism destinations and during travel.

Research has shown that inclusive tourism can significantly enhance the health and well-being of Indigenous people by promoting cultural practices, social inclusion and mental health *(571–573)*. Cultural tourism companies – particularly those led by Indigenous people – can have positive impacts on the health and well-being of Indigenous communities *(574–576)*. While commercial determinants of Indigenous health in industries such as mining, tobacco, alcohol, food, pharmaceuticals and gambling have been found to be harmful, Indigenous tourism operators, culturally sensitive guided tours, community visits and other local ventures have been found to enhance connection to culture, Indigenous knowledge and spiritual well-being for community members *(574)*. UN Tourism's *Compendium of good practices in Indigenous tourism – regional focus on the Americas* showcases good practices in Indigenous tourism that have fostered cultural interaction, intercultural dialogue, Indigenous leadership, and empowerment of women and young people. It highlights the role of tourism as a tool to safeguard ancestral knowledge and intangible cultural heritage *(577)*.

The impact of economic and commercial determinants on Indigenous health – manifesting in competitive markets, environmental degradation of land and waterways, loss of traditional lands and food practices, and marketing of Western foods – underscores the need of greater support for social entrepreneurship in the cultural tourism context. Notably, examples such as Māori tourism in New Zealand, which integrates traditional principles and Indigenous-owned traditional food-based industries, can contribute significantly to food security and economic empowerment *(575,578)*. The relevance of such cultural tourism ventures extends beyond economic benefits, highlighting their potential to address broader social determinants of health. Importantly, the findings emphasize the necessity for local communities to govern Indigenous tourism actively. This governance ensures protection against potential exploitation by the mainstream tourism industry, and calls for a nuanced evaluation of the health impacts of Indigenous businesses. This approach helps avoid the appropriation of Indigenous intellectual property – particularly in the lucrative Indigenous food industry *(574,579)*. It further recognizes that Indigenous communities must be represented authentically and respectfully, avoiding exploitation.

Protections against adverse impacts on natural and cultural resources of Indigenous communities are essential, with an emphasis on creating equitable partnerships while designing tourism destinations that actively promote the health and well-being of the communities *(580)*. Inclusive tourism offers can promote health equity, as shown for the example of active tourism. The affordability of walking and cycling makes them equitable modes of transport for locals, particularly when supported by safe infrastructure *(581,582)*. A pedestrian- and cyclist-friendly public realm not only ensures affordability but also fosters social cohesion by providing a low-stress environment. Moreover, cities designed to accommodate cyclists and pedestrians exhibit increased resilience to disruptions in motorized transport systems, offering viable alternatives during pandemics, natural disasters and security threats *(119)*.

At the same time, it is important to integrate Indigenous knowledge and practices into environmental protection and the role of inclusive tourism in supporting environmental protection and the health of Indigenous communities *(583)*. For example, hiking or walking over fragile soils can adversely affect habitats, while development of tourism infrastructure – for example, through groundwater pumping or coastal deforestation for hiking trails and accommodation – can create a pretext for significant reductions in sediment deposition and coastal erosion *(584)*. While sports tourism and adventure tourism are often considered nature-friendly, they might involve off-roading with vehicles, which can cause extensive damage to ecosystems in terms of air and noise pollution, as well as physical damage to the land, affecting water flows and increasing soil erosion *(585,586)*. The same applies to coastal structures built to cater for tourism and other activities, such as offshore breakwaters and jetties, which can lead to wave pattern and sediment deposit changes, resulting in erosion and accretion or overall sand loss *(584,587,588)*. While tourism can promote development of rural infrastructure – including improving water for sanitation – tourism infrastructure can increase demand for water, exacerbating groundwater availability, management and protection, as well as sustainable use of groundwater resources in rural areas *(589)*.

Therefore, UN Tourism's comprehensive *Recommendations on sustainable development of Indigenous tourism and the Compendium of good practices in Indigenous tourism – regional focus on the Americas*, emphasizes the need for equitable partnerships between the tourism sector and Indigenous communities, respecting Indigenous cultures, rights and ancestral traditions *(577,579)*, aligning with the principles of the UN Tourism Framework Convention on Tourism Ethics *(518)*. The recommendations highlight the centrality of Indigenous communities in decision-making processes related to tourism development. Emphasis is placed on respecting cultural values, engaging in transparent consultation processes, and empowering communities through skills development and governance models.

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8. Sustainable tourism development as a driver of health and well-being

Box 28. Key messages on sustainable tourism development as a driver of health and well-being

- **Tourism employs 334 million people globally but faces deficits in social protections**, especially for women, migrants and young workers. Policies to improve wages, working conditions and job formalization are essential for workforce well-being.
- **Seasonal tourism creates uneven job security and places stress on health-care systems during peak periods**. Strategies like diversifying tourism seasons and reducing reliance on single hotspots can balance resources and improve community stability.
- **Unbalanced tourism and touristification often lead to gentrification, rising living costs, and loss of cultural identity**. Inclusive community planning and balanced tourism growth can preserve heritage and ensure equitable development, including for health and well-being.
- **For long-term benefits for health, sustainable tourism must address pollution, climate change and natural resource conservation** to benefit both tourists and local communities. Nature-based solutions, such as green spaces and biodiversity conservation, enhance health and resilience.

Accelerating the shift to sustainable tourism management can have strong positive spillover effects for the conditions that create and sustain a healthier life for all. In turn, for tourism development to be sustainable it needs to engender the health and well-being of tourists, host communities, the tourism workforce and the environment.

Over the last 30 years, a substantial amount of research has been carried out in recognition of the increasing economic, social, cultural and environmental importance of tourism for the health and well-being of host communities and tourism workers *(13,534,590–592)*. However, most research on **sustainable tourism** development focuses on nature-based health tourism, ecotourism products or the environmental impacts of tourism if not managed sustainably *(163,593)*. Since the COVID-19 pandemic, the evolving landscape of sustainable tourism development shows a shift towards

catering to new consumer segments such as elderly and disabled people, a growing demand for green tourism services, and the development of innovative services that contribute to the welfare of local communities *(594)*.

8.1 Economic well-being: social security, employment and health in tourism communities

The World Social Protection Report 2020–2022 emphasized that significant challenges persist in ensuring the human right to social security for a substantial portion of the global population, with over 4 billion people still lacking adequate protection *(595)*. The tourism sector faces notable deficits in social protection – especially for temporary, part-time and self-employed workers – and women in the sector often experience limited access to health care and inadequate social security coverage. The COVID-19 crisis underscored the importance of expanding social protection systems to encompass all types of employment, including part-time and temporary work, while concurrently encouraging formalization of employment in the sector. The ILO guidelines on decent work and socially responsible tourism especially stress the need for gender-sensitive social security policies that cover both formal and informal economies, connect with initiatives promoting economic activity and formal employment, and ensure comprehensive social protection for all tourism workers *(596)*

8.1.1 Employment and working conditions within the tourism sector

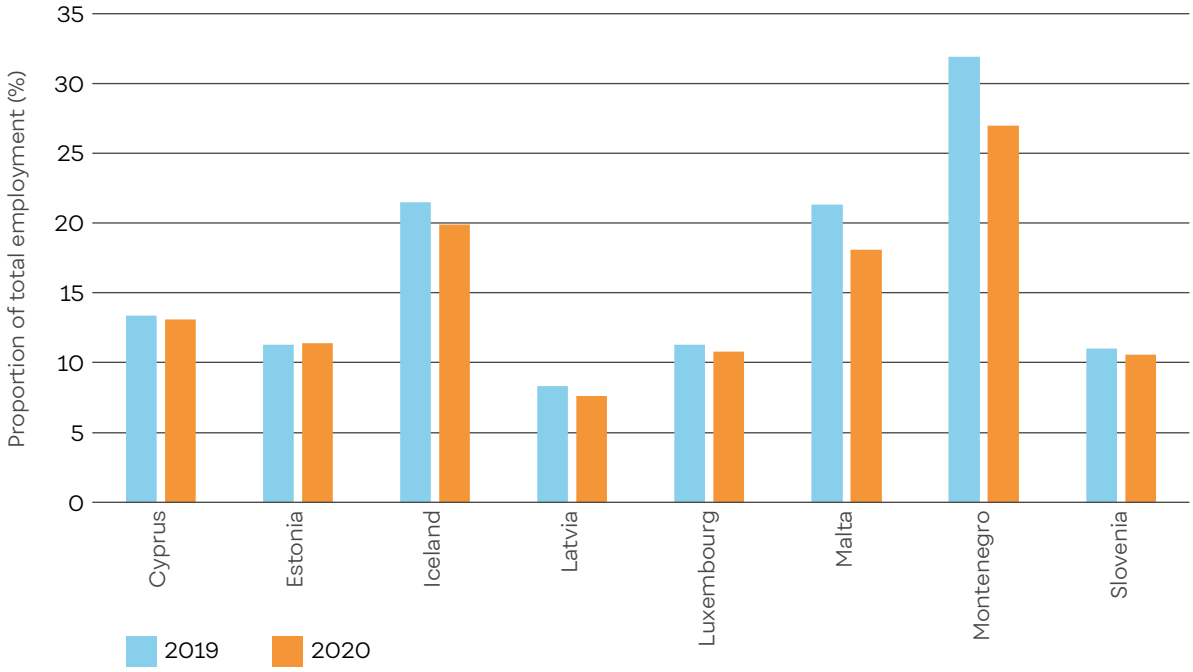
Tourism is an important source of employment for local communities in many countries in the WHO European Region, thanks to its direct economic impact and significant indirect and induced effects *(597)*. The large tourism value chain (including food and beverages, accommodation, transportation and so on) generates millions of direct jobs and further employment indirectly in other sectors such as health care, financial services and construction. Production of locally sourced food and beverages, health-care services, and construction of roads and catering infrastructure in tourist hotspots can all generate indirectly related labour *(598)*.

In 2024, the tourism sector contributed 10% to global GDP, and supported a total of 357 million jobs globally *(599)*. In pre-pandemic comparison, the sector provided employment for 334 million people globally in 2019, accounting for 10.6% of total global employment *(600)*. In the EU, the tourism sector directly and indirectly employed 27 million people in 2019, corresponding to 11.2 % of total EU employment *(601)*. Small countries' economies benefit greatly from incoming tourist expenditure, and the tourism industry also represents one of the largest employers in many of their economies.

Fig. 9 shows the proportion of total employment from travel and tourism in some of the SCI countries before and during the pandemic (excluding Andorra, Monaco and San Marino, which provided no data to the World Travel and Tourism Council). It illustrates that the impacts of the pandemic on decline in tourism employment were more significant in Iceland, Malta and Montenegro, where travel and tourism contributed to more than one fifth of total employment in 2019.

As a result, tourism has an important impact on people's livelihoods, and plays a crucial role in job creation for women, young people and migrant workers. Globally, women accounted for 54% of the sector's workforce, compared to 39% of the wider economy *(534)*. Young people under 35 years of age made up a significant portion of the workforce in tourism, half of whom are aged 25 years and under *(602)*. Migrants accounted for about 25% of employment in the hospitality subsector in OECD member countries *(603)*.

Fig. 9. Total contribution of travel and tourism to employment in selected SCI countries



Source: World Travel and Tourism Council *(599)*.

Despite its job creation potential, prior to the pandemic the tourism sector already faced challenges such as long working hours, low wages, high turnover rates, lack of social protection and gender-based discrimination *(604)*. Health impacts might result from structurally driven uncertainties due to low payment, low-skilled jobs and increasing recruitment from overseas, as seen in small island states *(605)*. The tourism sector has high incidence of informality due to seasonality and weak regulation *(602)*.

The tourism industry is a labour-intensive sector, mainly creating part-time and seasonal jobs, and often relying on migrant and female workers in basic positions such as bartenders and maids *(606)*. Migrant workers, women and young people are particularly vulnerable to working in lower-paid positions, in less safe, informal working environments, and with decent work deficits *(604,606)*. Low autonomy, heavy workloads, long and irregular hours, temporary employment, harassment, and violence in the hotel, restaurant and catering sector are closely linked to psychosocial risks *(607)*.

Despite the negative impact on employee health, including stress-related problems and CVDs, the sector's prevalence rates for health-related leave and compensation claims are relatively low; this may be attributable to a younger workforce and high turnover. Research has shown that high-quality labour market policies – including peer mentoring, apprenticeship schemes, on-the-job-training and job-seeking training – are directly related to good mental health and less sickness absence *(608)*. High-quality labour market policies can also increase the sense of control over employment conditions, which spills over into better health outcomes – especially under insecure working conditions and for workers with fewer years of education and training *(85)*. Conversely, more equitable job opportunities, decent financial and physical working conditions, decreased wage differences, and job security improve health, overall work performance and economic success *(609)*. Improved wages, income support, social transfers and decent minimum wages reduce the risk of the tourism workforce on low wages falling into poverty, being socially excluded, and not having health and other basic needs met – factors that might also cause stress and threats to health and well-being *(610)*.

UN Tourism and the ILO have collected best practices of measuring employment in the tourism industries from countries that have demonstrated capacity to develop a comprehensive set of employment indicators *(611)*. Health inequities are estimated to account for 15% of social security system costs in middle- and high-income countries, as well as 20% of the costs of health services *(612)*. Economic costs of direct and indirect health impacts on the tourism workforce and on the functioning of the whole tourism and health sector have called for consideration of:

- ILO international labour standards *(613)*;
- measures against job losses, deterioration in work quality and shifts towards increased informality within the tourism sector *(614)*; and
- action for health protection in accommodation and food service activities *(615)*.

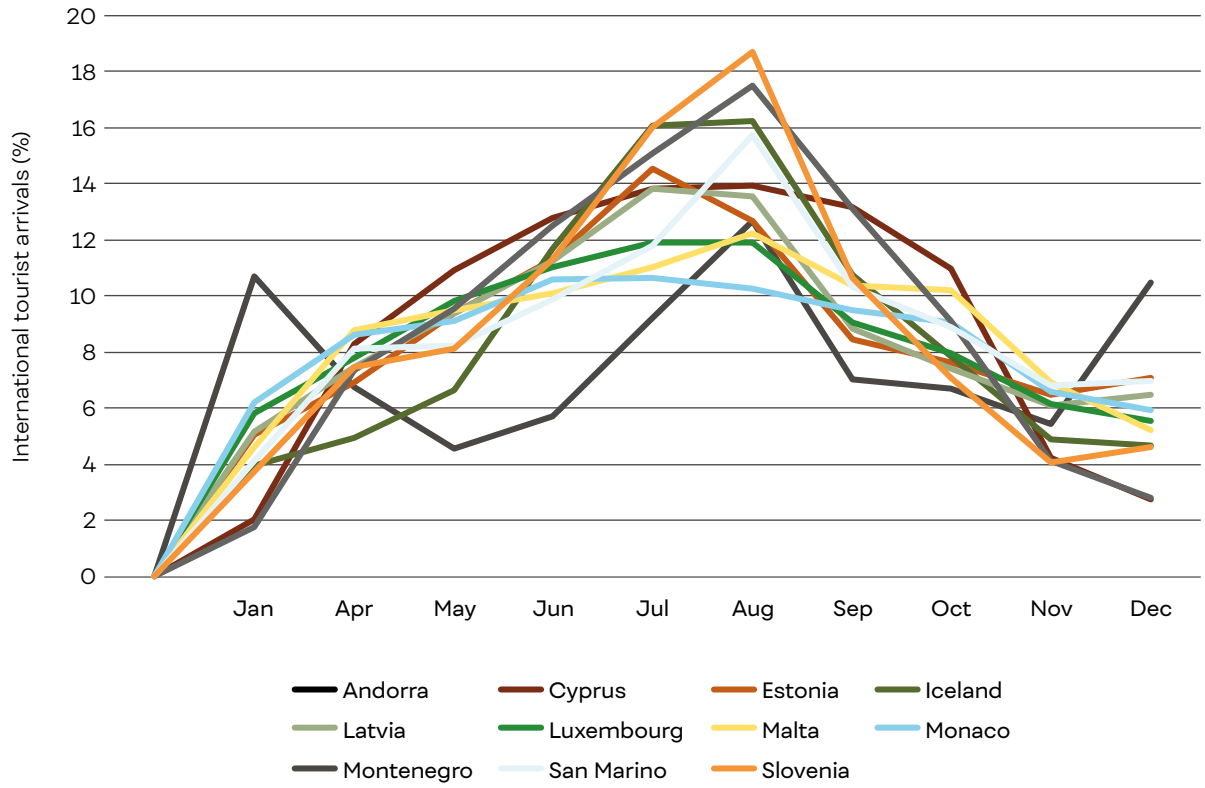
Addressing issues such as shift and night work, seasonality, temporary and part-time employment, subcontracting rates, and outsourcing can enhance the sector's contribution to economic development, decent work and sustainability *(604)*. To improve the attractiveness of jobs in the sector and overcome labour shortages – ultimately promoting and protecting the health and well-being of tourism workers – several measures can be taken around decent working conditions, wages and social protection *(616)*. These include, but are not limited to:

- **decent working conditions and fair wages** – prioritizing full-time permanent employment, enabling work–life balance by minimizing "unsocial" working hours and distributing them fairly, ensuring regular and predictable working times, limiting overtime and compensating extra work with free time, and regulating outsourcing, subcontracting and franchising to avoid precarious working conditions;
- **protecting fundamental rights and safety in the workplace** – addressing physical and psychosocial risks, providing health and safety protocols, guaranteeing workplaces free from sexual harassment and violence with clear policies and procedures, protecting and organizing seasonal and migrant workers, promoting gender equality and diversity, preventing discrimination, ensuring equal opportunities, and promoting social labelling campaigns that assess decent working conditions and workers' rights;
- **workforce empowerment through training and representation** – offering vocational education and training, including upskilling and apprenticeships, giving workers a voice through workplace representation and participation, strengthening collective bargaining and ensuring the application of collective agreements, and facilitating fair digital and green transitions by involving workers' representatives and trade unions; and
- **reducing tourism-related challenges** – fostering year-round tourism to reduce seasonal employment fluctuations, and continuing daily room cleaning in hotels to maintain hygiene and stability in housekeeping jobs.

8.1.2 Impacts of seasonality and spatial concentrations on tourism employment

International tourist arrivals exhibit significant seasonality, with peak travel periods leading to uneven monthly distributions. The share of international arrivals varies notably across regions and time frames, reflecting diverse tourism patterns and recovery rates *(7)*. The seasonality of tourism flows is a particular challenge for small countries, possibly translating into work stressors and high pressure on both natural and cultural resources during peak seasons and on health-care systems and resources. It may also translate into job insecurity during low seasons. Fig. 10 shows the patterns of tourism seasonality prior to the COVID-19 pandemic for each of the SCI countries in 2019 (excluding North Macedonia, which joined the SCI in 2024). In all SCI countries, tourism is peaking between July and August – with the exception of Andorra, which also has peaks in December–January as it offers nature tourism in summer, sport activities (such as skiing) in winter and shopping throughout the year. Tourism seasonality demands great flexibility in health system planning for peak seasons, including for hospital beds, staff and resource planning, infection prevention and control, and health service delivery related to health impacts of weather conditions (such as heatwaves) or specific tourism activities (such as winter sports) *(617–619)*.

Fig. 10. Average share of tourist arrivals by month in SCI countries (2019)



Source: UN Tourism *(7)*.

The UN Tourism Data Dashboard shows a similar pattern pre- and post-pandemic of the seasonality of international arrivals in SCI countries *(7)*. Many countries witness stark differences in inbound tourism flows, mostly between summer and winter seasons. For instance, in Montenegro international tourism is concentrated during the summer months in the coastal areas *(7,620,621)*; this is also the case in the typical Mediterranean sun–sea–sand destinations of Cyprus, Malta, Montenegro and North Macedonia *(7,622,623)*, where tourist arrivals are mostly concentrated in the summer season and there are often not enough local workers, so foreign workers fill this employment gap *(624–626)*. Quiet months can be seen as a breathing space for residents; however, these fluctuations bring further challenges in terms of job employment for residents, as seasonal employees look for alternative work arrangements and risk not finding alternative sources of income. Estonia and Latvia also experience peaks in the summer and winter periods, with low seasons in the autumn and spring *(7,627)*.

Alongside seasonal differences, tourist flows are often concentrated in particular hotspots. As less visited areas do not receive the same economic opportunities from tourism employment, job creation will also only be higher in some areas, increasing the vulnerability of tourism-dependent workers in times of crisis *(628)*. This dynamic can create regional socioeconomic inequalities within countries or movement of the population to tourist areas due to availability of jobs, especially in small countries with important tourism industries that develop only in high density around hotspots *(629)*. This has been observed in Iceland, where tourism is concentrated in a few areas and particular periods of the year, resulting in particular pressures on working conditions and employment due to seasonality and on fragile environments *(630)*.

8.2 Human and social well-being: living conditions and health in tourism communities

Sustainable tourism development relies on good public and privately supplied infrastructure and living conditions for locals that promote health and well-being, and make the tourism industry more resource-efficient and clean *(29)*. In areas where tourism activities exceed the carrying capacity of a destination, unregulated influxes of great numbers of tourists may lead to gentrification or spontaneous, unplanned and massive development of tourism; these can lead to transformation of the space into a tourism commodity. This is of major concern for small countries due to their size, and for the overall functioning of their health systems *(631)*.

Economic revenues from tourism and changes in urban environments and neighbourhoods can offer positive outcomes, such as improvements in public infrastructure providing access to high-quality health service delivery *(619,632)*. At the same time, in areas with high levels of tourism, tourism-related gentrification and touristification can pose challenges to living conditions and daily stressors for local communities. Research has shown that unstable or unsafe housing, low-quality homes, unsafe neighbourhoods, fuel deprivation and a lack of community amenities are also linked to poor health and well-being, and to health inequities for those who live in economically deprived areas *(85)*.

In densely populated areas experiencing surges in tourism, heightened health inequities may arise due to varying levels of exposure to air pollution (both indoor and outdoor), flooding, noise pollution, high road traffic density, and sanitation and water scarcity. Furthermore, tourism's influence extends to food security and dietary patterns for local residents – particularly those with low incomes – through either altered food consumption patterns or prevalence of low wages within the tourism workforce. The repercussions also manifest in increased prices for essential consumer goods, rental and property rates, as well as challenges for sanitation and waste services, and conflicts over water access and use. Conversely, public tourism revenue presents an opportunity for funding that could address these health inequities by improving housing and community amenities, such as street lighting, green spaces and public facilities.

8.2.1 Health impacts of tourism-related gentrification, touristification and unbalanced tourism

Gentrification normally refers to the trend of long-term residents moving out of a historic residential area as people buy properties and move into the area *(633)*. Until the turn of the 21st century, tourism featured only marginally in the debate on gentrification. More recently, gentrification has also become associated with tourism because of the sharp increase in short-term tourist rentals (via companies such as Airbnb) in city centres and elsewhere. Profits from tourism rentals tend to be higher than long-term residential rentals. Therefore, local residents find it increasingly difficult to rent in the area with which they have the closest links *(634,635)*. Low-income households and elderly people are especially at risk of the negative consequences of gentrification such as economic burdens and housing accessibility issues *(636)*.

Touristification is another process that refers to the sharp increase in tourism and leisure activities in an area because of increased tourism accommodation (hotels, boutique hotels and short-term tourist rentals) and increased catering and night-time entertainment establishments *(637,638)*. When areas become tourism- and leisure-oriented, especially geared towards night life, a host of problems affecting liveability become a source of irritation for residents *(361)*, including:

- noise pollution, especially in nightlife areas;
- high increases in short-term rental apartments;
- increases in shops aimed at tourists rather than local communities;
- disrespectful behaviour of tourists; and
- increases in alcohol and drug consumption, with subsequent consequences such as increases in crime and road traffic accidents and related costs such as policing.

Residents develop strong roots with the area and the city where they live, not least because it gives them a sense of identity. For a historic area to be sustainable and to safeguard the well-being of long-term residents, there is a need for balanced urban policies that maintain the liveability of an area while at the same time allowing sufficient inward investment for historic, cultural and religious buildings to be appropriately maintained.

Gentrification and touristification are increasingly being criticized for their negative outcomes on societies. As the social and psychological environment changes, communities tend to experience significant changes that have negative impacts on their health. These include, but are not limited to, a decline of social networks; loss of identity; environmental changes including pollution; changes in services and stores; property speculation/evictions; activism by residents; and psychological and emotional deterioration *(639)*.

A phenomenon of increasing research interest is the impact of gentrification/tourism on the prevalence of NCDs – especially for long-time residents and individuals with low socioeconomic status. As prices and expectations of new residents/tourists increase, newer retail stores tend to enter the area, outcompeting smaller food outlets familiar to long-time residents. Consequently, residents are often forced to look for cheaper food, which might be of lower nutritional content, leading to negative health consequences in the long term *(640)*. So far, no city or country has been able to tackle these trends successfully *(641,642)*. Small countries also witness these dynamics, and need to consider strategies to at least mitigate the socioeconomic, environmental and health implications for the living conditions of local residents in tourist hotspots.

Unbalanced tourism is an emerging concept that has been in the media spotlight since it was first used in 2016. It has since gained importance in the tourism literature, as shown by the growing number of dedicated articles and books published on the issue *(643–646)*. For host communities, this may result in disruptions to daily life, erosion of cultural integrity and strains on the local infrastructure – including health systems. For tourists, the promise of meaningful connection and unique experiences fades in places overwhelmed by uniform, commercialized offerings. Economically, unbalanced tourism can create a co-dependent relationship where destinations become reliant on visitor flows without investing in diversified tourism markets. A cycle of constantly creating new attractions to maintain interest may inhibit sustainable development and addressing deeper systemic imbalances. UN Tourism has long been concerned with the topic of how to manage urban tourism growth and local challenges *(647)*. The concept of unbalanced tourism is well known in European cities like Venice, Italy; Amsterdam, Netherlands (Kingdom of the); and Barcelona, Spain, where the impact of tourist crowds has sparked outrage and action by local residents *(648)*. This problem is particularly felt in geographically limited areas like small countries, which are not fully prepared – or at times not able – to expand their hosting capacities to an exponential increase of visitors *(648,649)*. Such places experience the negative effects of the democratization of global tourism, where individual freedom to travel may turn into excessive mass tourism, leading authorities and the population to question whether tourism is beneficial overall, and what sustainable tourism means *(650,651)*.

Clearly, unbalanced tourism has multiple direct and indirect health implications for both residents and tourists. Since the respite from excessive tourism during the COVID-19 pandemic, the return of tourism has created a new surge of visitors, while health systems are still recovering from the COVID-19 emergency and might not be ready for another surge in demand. Unbalanced tourism can also bring in new or additional public health challenges not previously experienced by the host community in the form of drug use, excessive alcohol abuse, crime and other illicit activities. Crime can take various forms – from drunken behaviour causing damage after a party to theft and aggregate property crime *(652)*. Binge drinking on beaches or after a party by tourists, for example, often comes at great cost to the peace of mind of local residents, leading to fear of property damage or violence, as well as irritation from being disturbed *(653,654)*. These fears (perceived or experienced) are part of the negative consequences of unbalanced tourism that can be countered through sustainable tourism policy measures, which should include and value the perceptions of local residents.

Health and well-being are intricately tied to the availability of high-quality, affordable housing – a relationship particularly evident in resource-constrained regions. Establishing robust standards

for the tourism industry is paramount, achieved through implementation of laws, regulations and incentives with a primary focus on air quality, sanitation and water supply services. By prioritizing the affordability of homes equipped with fuel-efficient heating systems and indoor sanitation facilities, prevalence of respiratory illnesses, waterborne infections and even mental health conditions within the local population can be mitigated *(85)*. Crucially, the dual advantages of such measures extend beyond the immediate public health benefits. Both the well-being of tourists and residents and, by extension, the tourism economy stand to gain substantially from equal provision and upkeep of essential public services, leaving no one behind.

This also involves robust political regulation within the tourism sector, targeting commercial interests to diminish health inequities. Simultaneously, incentivizing health-promoting living conditions emerges as a critical strategy, including offering subsidies to homeowners and landlords who invest in improving fuel efficiency, energy efficiency of buildings, indoor sanitation facilities and the overall upkeep of housing infrastructure *(542)*. This multifaceted approach not only addresses immediate health concerns but also cultivates a sustainable and equitable foundation for the community's well-being.

8.2.2 Preserving cultural heritage: balancing tourism development and community well-being

UN Tourism emphasizes the importance of respecting and preserving cultural heritage and promoting inclusive management systems and innovative cultural tourism experiences, supporting its members in developing cultural tourism policies, strategies and products *(655)*. As noted earlier, it also highlights the significance of Indigenous tourism, and provides guidelines and good practices for responsible and sustainable Indigenous tourism development *(656)*. This encompasses empowering Indigenous women in tourism through textiles and fair trade; managing the impacts of COVID-19 on cultural tourism; producing recommendations for inclusive tourism recovery; and exploring challenges, opportunities and practical steps for developing and marketing tourism products based on intangible cultural assets *(578,657)*.

Tourism industries may erode "genuine" local activities – as, for example, when a location becomes too heavily geared towards tourism, and what once was a local tradition or cultural expression becomes only a tourism product *(658)*. Destinations may become more commercialized to provide goods and services to tourists, at significant cost to the traditional culture and values of a destination *(659)*. As a result, residents may feel that their local traditions are being "tokenized", and may be discouraged from expressing them in a genuine way – for example, if they feel that a local festivity is only "being celebrated for tourists" *(660)*.

The sense of community that might make a neighbourhood attractive in the first place diminishes as the original residents are displaced. This situation can create significant negative consequences, and may trigger social conflict both between communities and with the tourism sector that may outweigh positive gains if not addressed *(661)*. Lack of control, decline in trust in others and low educational outcomes have been found to explain differences in health outcomes among the least and most affluent adults in the WHO European Region *(85)*. On an individual level, good mental health and well-being and lower risks of morbidity are linked to active, meaningful participation in society, trust in others (including interchangeable trust between tourists and residents), and the ability to influence decisions. These contribute to stronger individual and social resilience and high-trust environments that are characterized by reduced risks of crime, social isolation and lack of voice, and greater help from others *(85,662,663)*. Involving local communities in tourism strategies, and making them participating partners at the local, subnational and national levels improves their sense of choice and control over their lives. Furthermore, it means that decision-makers are held accountable for their actions, ultimately creating more sustainably responsive policies and services, improving accountability and transparency, building trust, and improving a sense of control over the factors that influence health. This participation can also be achieved through health service interventions that aim to improve social participation and sense of control in communities, as described in Table 3, which can be interlinked with actions to build cooperation for sustainable tourism strategies.

Table 3. Health service interventions to improve social participation and sense of control in communities

Level	Ways to take action
Health workers and health facilities	Promote collaboration and communication with local communities. Coordinate programmes with organizations that work directly with thoese who are being left behind.
	Build community capacities to take action on health and reduce health inequities. Work with local communities to identify local issues, devise solutions and build sustainable social action. Tools: community development, using asset-based methods.
	Empower local people to provide advice and information, and to support or organize activities. Accelerate action for those who are being left behind. Tools: peer support, health trainers, befriending and volunteer schemes.
	Involve communities and local services at the planning and implementation stages, leading to more appropriate, equitable and effective services. Accelerate action for those who are being left behind. Tool: co-production.
	Connect people to local community resources, offering practical help, group activities and volunteering opportunities. Accelerate action for those who are being left behind. Tool: social prescribing.
	Create participatory opportunities and roles in the governance structures of health services for representatives of local populations and civil society.
Health services and helath policy	Adopt a participatory institutional culture and establish and sustain partnerships with sectors outside of helath, as well as evaluating participatory processes.

Source: WHO Regional Office for Europe *(664)*.

8.2.3 The emergence of anti-tourism sentiments and market "overdependence"

In the past few years, many European destinations – including Barcelona, Spain– have started to experience a local backlash against high numbers of tourists and tourism pressures closely linked to the depopulation of historic city centres and other downsides of tourism described above *(665–668)*. In Slovenia, residents in municipalities with high levels of tourism also confirmed a negative environmental impact and anti-tourist sentiments related to living and working conditions, despite the economic benefits *(635)*.

While cognizant of the importance of tourism to their local economy, residents also realize that their daily working routines and living habits have been disrupted by huge numbers of tourists who do not necessarily value or appreciate their cultural legacy, which can create an unfavourable working environment for locals. This has also important health impacts, as described above.

The relationship between tourists and residents in over-visited destinations, including notions such as "carrying capacity", have been applied to debates in unbalanced tourism and environmental spheres. These experiences – including a reduction of available space and a consistent deterioration in the way of life of residents – have led to a form of "tourismphobia" in some destinations, leading to outright hostility *(669)*. This is usually directed towards tourists and authorities who seem to be unable or unwilling to change tourism models to render them more sustainable. As research has shown, considering the size of small countries and their relatively high population density, the threshold for this type of sentiment to emerge in these countries is already low *(650)*.

During the COVID-19 pandemic, the lack of tourism also brought attention to the need to diversify the economy of a location and not leave it over-reliant on tourism as a source of income. For instance in Venice, Italy, while many breathed a sigh of relief at record low tourist numbers, which reduced daily stressors from crowded streets or noise pollution, it was also an economic disaster for the city, which resulted in employment-related stressors *(670)*. With a diminishing number of residents, places with high levels of tourism need to keep diversifying their economy, while also reducing the impact of unbalanced tourism, to avoid being severely vulnerable to shocks such as the pandemic.

For example, in the Canary Islands, Spain, temporary restrictions on development of new tourism accommodation – also known as tourism moratoria – were adopted in 2003 to control the growth of tourism supply *(671)*. These regulations included exceptions, allowing the construction of high-quality hotels to attract high-end visitors, resulting in a significant rise in 5-star accommodation. This contributed modestly positive effects on GDP, employment and social welfare, highlighting the need for a balance between economic gains and environmental sustainability in tourism development.

8.2.4 Food security and healthy diets in tourism settings in small countries

Food security is a key component needed for good living conditions. It is relevant for both the host community and visiting tourists, and requires food of reliable and consistent quality, sufficient resources to produce or purchase food, an ability to access and utilize food that remains stable over time, and the knowledge and basic sanitary conditions to choose, prepare and distribute food *(672)*. Food supply is frequently outstripped by food demand in small countries because of limited space, geographical factors and market forces *(673)*.

Tourism increases food demand in a country owing to both the quantity of people arriving and the expectations of food diversity. This rise in demand can affect the local market, possibly adding pressure to the agricultural and food sector, the environment, and the mental health and well-being of farming communities struggling to meet market demands. High demand may increase the price of certain food products, rendering them unaffordable to local communities. Tourism can also lead to a significant increase in food waste owing to the demand for fresh produce that becomes unfit for human consumption if uneaten *(674,675)*. Gentrification in particular may increase the risk of food insecurity in local households *(639)* where tourism leads to increased prices, leading to host community members opting for poorer-quality, more affordable food. In addition, other effects – such as increased housing and food prices – can reduce available financial resources for health care *(676)*. Box 29 presents an example of gentrification at the Valletta Food Market in Malta, and highlights its impact on local communities and their access to food.

Box 29. The Valletta Food Market

The Maltese capital, Valletta, was in a relatively abandoned state in the 1980s and 1990s. Things started to change around the start of the millennium as the public sector invested in Valletta by restoring historic buildings and extending pedestrian areas. These public investments incentivized the private sector to invest in renovation of properties in Valletta, mostly for tourism-related uses such as boutique hotels, short-term tourism rentals, restaurants and cafes *(677)*. This led to a loss of the characteristic social fabric of this city, as observed also in Venice, Italy *(668)*.

The Valletta Food Market is an example of gentrification and its impact on local communities and their access to food. Long abandoned and derelict, the Victorian-era food market in Valletta was restored and opened to the general public in 2018. Prices, however, are targeted to tourists and are well above the average. Thus, most of the local population cannot afford to shop there. This, along with a boom in restaurants and high-end food outlets in Valletta, is having a detrimental impact on access to affordable fresh food – especially for those from lower socioeconomic backgrounds, although more research is needed to confirm this effect *(678)*.

Food security can be affected in various ways depending on the type of tourism. Agritourism, for example, can help a country address over-reliance on imported food products, and increase links between local farming communities and tourism that encourage local food production of high quality to cater for demand in this sector. This can also improve food availability and stability. Such enterprises can prove invaluable in retaining knowledge of local food production and providing a raison d'être for agricultural communities, which in many small countries – particularly islands – have faced a rise in imported food *(679,680)*. However, government support is necessary to mitigate the effects of international food commodity markets that threaten national security in the event of food supply chain challenges *(681,682)*.

Large tourist influxes lead to significant rises in numbers of people who consume food in a region. Sustainable food approaches are needed to ensure food system functioning and availability of healthy and sustainable diets *(683)*. If no kitchen is available in hotels, tourists might choose ordering food, eating out in restaurants, or buying street food or other out-of-home meals. The out-of-home food environment often offers meals with larger portion sizes and no/little information on nutritional value *(684)*. The nutritional composition of delivery foods is of concern, as research has found that most foods prepared away from home are associated with high levels of calories, sugar, saturated fat and salt *(685,686)*.

Marketing/digital marketing of unhealthy foods might take place in tourist areas; this can especially influence children's eating behaviour. However, digital food environments hold both opportunities and challenges for healthy food choices *(687)*, requiring governments and public health institutions to take action – especially for monitoring and restricting digital marketing of unhealthy products to children and adolescents *(688)*.

8.2.5 Tourism, water infrastructure and health

Although the direct water usage specifically related to tourism is significantly less than 1% of global consumption, high tourism concentration in specific time periods and locations may contribute to increased water consumption at a regional level *(689)*. Water consumption by tourists has been found to be twice or three times higher than that of residents; therefore, it can become a constraint to healthy and sustainable tourism development in areas with limited water supplies *(690)*. Moreover, tourism's indirect water needs – including activities like food production, building materials and energy generation – may have a more substantial impact on water usage than direct tourism-related water use *(689)*. Tourism also increases demand for water because of the amenities required for high-quality services, such as swimming pools, spas, saunas and other forms of infrastructure within resorts and hotels that often require a large amount of water.

This is especially problematic in water-scarce countries or countries with limited water capacity, including small countries in the WHO European Region *(691–694)*. Water shortages can create conflicts with local populations, particularly in regions where water is scarce and new water supplies – such as importing water or desalination – are difficult and expensive to implement *(695)*. Conservation is a means to reduce demand and mitigate water shortages, which includes practices like recycling waste- or greywater. Considering the expected changes in global precipitation patterns due to climate change, it is particularly important for destinations already facing water scarcity issues to engage proactively in water management practices and manage the water footprint associated with tourism *(689)*.

8.3 Planetary well-being: sustainable tourism management for health and the environment

Planetary well-being in tourism refers to the overall health and sustainability of the environment and ecosystems in tourism settings. It encompasses various factors such as good air and water quality, access to safe green spaces, sustainable transportation options, and the preservation of biodiversity and natural resources *(38)*.

From an environmental perspective, sustainable tourism management recognizes the value of nature and biodiversity for health and tourism. It aims to mitigate environmental damage, implement long-term strategies that incorporate links between nature and health, and encourage policies that promote environmental resilience and collaboration across sectors to safeguard both human health and the natural world. At the same time, tourism requires healthy communities, healthy tourists and a healthy planet.

When discussing the environmental dimension of tourism, it is crucial to consider both the complex interaction between tourism and the environment and related health impacts. For example, promoting active tourism like cycling and walking not only promotes physical activity and reduces air pollution but also prevents environment-related deaths and mitigates climate change *(118–120)*.

All sectors, including the tourism and health sectors, have a responsibility to prevent and respond to the triple planetary crisis (climate change, pollution and biodiversity loss). Nature is fundamental for human health, providing vital ecosystem services, such as water purification, air quality regulation and food production *(696)*.

Research in countries in the WHO European Region suggests a diverse range of entry points for responding to the triple planetary crisis *(697)*, including:

- applying a zero-regret approach in reducing greenhouse gas emissions and climate change; reducing health system emissions of greenhouse gases and air pollutants;
- minimizing and adequately managing waste, wastewater and hazardous chemicals;
- promoting efficient management of nature resources, with protection of biodiversity and ecosystems;
- promoting sustainable procurement and a circular economy;
- prioritizing disease prevention, health protection and comprehensive public health services;
- promoting public transport, walking and cycling;
- promoting a One Health approach; and
- reducing air, noise and light pollution.

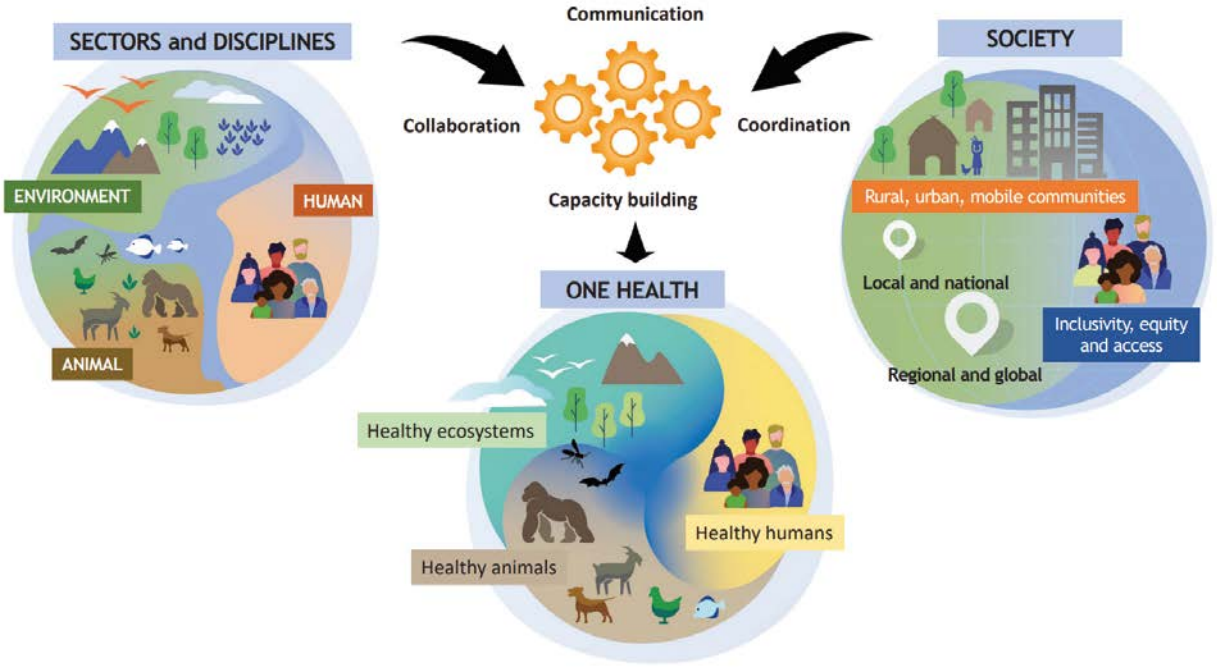
Pressures on natural environments threaten human health and well-being and tourism, especially driven by factors such as:

- exposure to extreme weather events and water shortages, alongside the emergence of and increases in prevalence of infectious diseases due to climate change;
- water, air, waste and chemical pollution; and
- biodiversity loss and damage to tourism assets and attractions at destinations.

Using a sustainability lens, this section discusses the nexus between tourism, health and climate change, pollution and biodiversity loss.

Generally, for sustainable tourism development, consideration of ecosystem services is especially relevant, encompassing the inherent benefits derived from ecosystems. These contribute to human welfare, including health, offering huge potential for addressing economic and environmental dimensions of sustainable tourism simultaneously. Ecosystem services are commonly divided into three categories: provisioning (such as water, food and materials supply), regulating (including climate control and water purification) and cultural (encompassing aesthetics and recreational opportunities). All are reliant on underlying supporting services (such as nutrient cycling and soil creation) *(696)*. Therefore, leveraging ecosystem services in tourism for health and well-being requires cross-sectoral planning and collaboration. As Fig. 11 and Box 30 show, the One Health approach encourages collaboration across sectors – including in human, animal and environmental health – to improve the health of people and animals, including pets, livestock and wildlife.

Fig. 11. The One Health approach



Source: Food and Agriculture Organization of the United Nations et al. *(698)*.

Box 30. The One Health approach and tourism

One Health recognizes that the health of humans, domestic and wild animals, plants and the wider environment (including ecosystems) is closely linked. This unifying and integrated approach aims to prevent, predict, detect and respond to global health threats *(698)*. It also addresses the collective need to ensure access to clean water, energy and air, as well as safe and nutritious food, and to take action on climate change and contribute to sustainable development. It brings together a range of disciplines, communities and sectors – including public health, veterinary and environmental sectors – that coordinate, collaborate and share data and information. Applying the One Health approach involves considering the health of the individual traveller, protection of public health and ecosystem health at tourism destinations, and tourist behaviour, with a view to global health, security and healthy ecosystems.

The One Health approach encompasses:

- food and water safety and nutrition
- control of zoonotic diseases
- pollution management
- laboratory services
- a focus on neglected tropical diseases
- human, animal and environmental health
- combating AMR.

Tourism can involve a wide range of ecosystems, populations and practices. Tourists often visit new settings that may involve new or increased interactions with people, animals and ecosystems. Therefore, the One Health approach can be helpful to consider potential health implications for both existing and potential tourism activities *(699)*. Sustainably managed tourism settings, including protected and conserved areas, can serve as a catalyst for wider application of One Health principles that help to balance the health of people, animals and ecosystems. The ultimate aim is to conserve biodiversity; improve health, well-being and community livelihoods; and increase the resilience of the health and tourism sectors.

8.3.1 Tourism, climate change, weather and health

Climate change is the most significant health threat to humanity, and is already causing health harms globally *(700)*. The Intergovernmental Panel on Climate Change warns that limiting temperature rise to 1.5 °C is crucial to prevent catastrophic health impacts and millions of climate-related deaths. People in low-income and disadvantaged countries and communities, who contribute least to climate change, are those most vulnerable to its health effects *(701)*. Research shows that local and global tourism patterns are expected to change owing to climate change and associated health risks, as in the following examples.

- Heatwaves and increasing temperatures are leading to uncomfortable climates in coastal and outdoor tourism, increased risks of fires, and possible exacerbation of pre-existing medical conditions *(702)*.
- Accelerated warming and extreme weather events will shift peak tourist seasons in mountain tourism, while associated health risks – such as heat stress and spread of diseases – will influence tourist behaviour, potentially leading to a preference for cooler and safer destinations *(703)*.
- Climate-change-related emergence of, increases in and changing distribution of vector-borne diseases in tourism settings are affecting tourism and recreational behaviours, especially during certain activities and times of the year *(704–706)*.

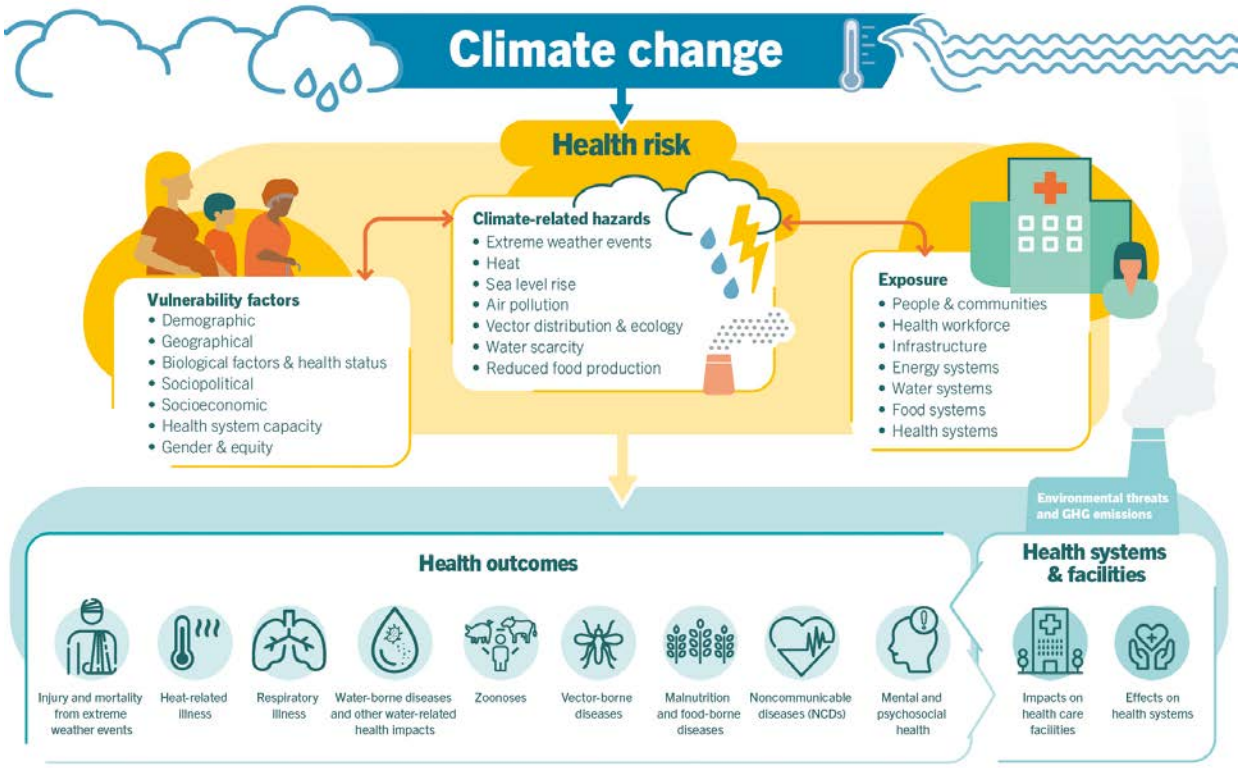
For example, research in Malta anticipated significant threats to tourism as a result of predicted climate change impacts. This highlighted the need for better-coordinated policy initiatives, acknowledging a gap between policy, strategy and effective implementation of mitigation and adaptive measures to ensure the long-term sustainability and climate responsiveness of Maltese tourism *(707)*.

The climate crisis endangers five decades of development progress and exacerbates health inequalities, imperilling universal health coverage by compounding disease burdens and barriers to access. Roughly 12% of the global population (over 930 million people) allocate at least 10% of their household budget to health care. Climate change is intensifying this financial strain and pushing around 100 million individuals into poverty annually due to health shocks *(700)*.

Climate change affects health in various ways, including through extreme weather events, disruptions to food systems, increases in diseases transmitted by animals, contaminated food and water, changes in distribution of vectors and mental health issues, as illustrated in Fig. 12. Vulnerable and disadvantaged populations – such as women, children, ethnic minority groups, people living in poverty, migrants, older adults and those with pre-existing health conditions – are disproportionately affected. While it is challenging to measure the scale of climate-related health risks accurately, scientific advances corroborate attribution of increasing morbidity and mortality to human-induced climate change *(700)*. In the short to medium term, the vulnerability and resilience of populations and adaptation efforts will determine the health impacts of climate change. The long-term outlook, however, depends on taking transformative action now to reduce emissions and avoid dangerous temperature thresholds and irreversible tipping points.

Climate-related illnesses, premature deaths, malnutrition and threats to mental health are increasing. Climate change contributes to various health impacts, including communicable diseases and NCDs, respiratory illnesses, heat stress, food insecurity and adverse nutrition impacts. Climate change can also contribute to armed conflicts by undermining food and water security, incomes and livelihoods. In turn, climate-resilient development – considering regional, local and Indigenous knowledge and vulnerability dimensions – can generate co-benefits for health and well-being, reduce migration and prevent conflict. Access to primary health care, improving social determinants of health and providing better mobility options – including in tourism infrastructure – are important for climate resilience *(216)*.

Fig. 12. Climate change and impacts on health



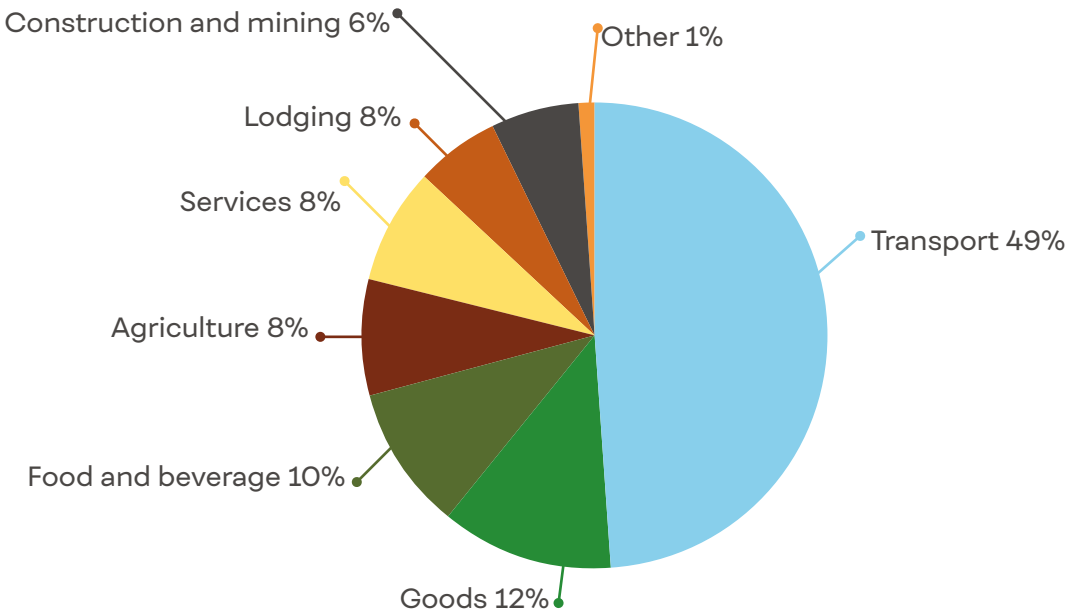
Source: WHO *(700)*.

8.3.1.1 Greenhouse gas emissions in health and tourism

Healthy societies and prosperous tourism destinations inherently rely on urgent, society-wide efforts to react to and prevent climate change-related threats to health and well-being *(708)*. Tourism has a significant carbon footprint: annually, it is estimated to contribute around 8% of annual carbon emissions. Prior to the COVID-19 pandemic, this was set to increase annually by around 4% *(709)*. Between 2009 and 2013, tourism's global carbon footprint increased by over 15% from 3.9 to 4.5 gigatonnes of carbon dioxide equivalent, although the pandemic has had a significant impact on lowering tourism activity in recent years. In 2019, total transport-related tourism emissions alone (excluding cruise-liner transport) were expected to represent 5.3% of overall forecast anthropogenic emissions by 2030 *(710)*.

While consistent data on the carbon footprint of global tourism since the COVID-19 pandemic are lacking, UN Tourism aims to improve measurement and standardization in climate action among tourism organizations – particularly in small and medium-sized enterprises – with diverse methodologies and tools *(711)*. Carbon emissions are related to numerous tourism subsectors, including emissions during tourism activities (such as combustion of jet fuel to travel) and emissions due to commodities used by tourists (including accommodation, food and shopping); this also includes supply chain accounting (Fig. 13). Almost half (49%) of all annual carbon emissions from the tourism sector result from transport, followed by goods (12%) and the food and beverage sector (10%).

Fig. 13. Carbon footprint of global tourism across sectors



Source: Lenzen et al. *(709)*.

Considering its global carbon footprint, tourism is a highly important sector in the quest to mitigate climate change and reduce carbon emissions to meet the Paris Agreement goals of limiting warming below 1.5 °C *(712)*. This requires joint action from leaders, governments and businesses in post-pandemic tourism recovery to cut emissions at least in half by 2030 and achieve Net Zero by 2050, as agreed in the 26th UN Climate Change Conference (COP26) Glasgow Declaration for Climate Action in Tourism *(713)*.

Box 31 explores how tourism can increase carbon emissions significantly, making small countries more vulnerable to climate change impacts.

Box 31. The impact of tourism on carbon emissions in small countries

In small countries, the impact of tourism on national carbon emissions may be disproportionately large if they have a high tourism/population ratio. The small countries including Cyprus, Maldives, Malta, Mauritius and Seychelles have among the highest destination-based carbon footprint emissions *(709)*. Small countries typically produce a negligible percentage of overall carbon emissions, yet stand to be disproportionately affected by the impact of climate change. Their small size and limited capacity to adapt to extreme weather events such as heatwaves – leading to coral bleaching or forest fires, for example – can damage the attractiveness of a location significantly, lowering tourism potential *(714)*. Climate change can also damage both natural and human-made heritage sites significantly, and small islands may not be able to afford either to protect their sites or, in the event of damage, to repair them. The tourism sector will be greatly affected by climate change if it remains unmitigated *(702)*.

8.3.1.2 Extreme weather events

Weather-related events – such as heatwaves, wildfires, floods and storms – and UV exposure can cause environmental health risks. Between 1970 and 2021, more than 11 700 disasters were attributed to weather: these led to over 2 million deaths and over US$ 4.3 trillion in asset losses, globally *(715,716)*. In Europe, 1784 disasters caused 166 492 deaths and US$ 562 billion in economic

losses. Extreme temperatures were the leading cause of reported deaths, and floods were the leading cause of economic losses. The recent Intergovernmental Panel on Climate Change scenarios anticipate a dramatic increase in extreme weather events over the coming decades *(701)*, posing serious challenges to the tourism sector, but also to tourists' and host communities' health.

Heatwaves are increasing in frequency and severity around the world, and are expected to intensify due to the effects of climate change *(701,717,718)*. Rising temperatures are expected to increase temperature-related mortality significantly – especially if climate emission mitigation efforts are unsuccessful *(719)*. The effects of high temperatures on cardiovascular and respiratory mortality *(720–722)* and morbidity *(722,723)* are well known. These include dehydration, hypertension, kidney problems, heat exhaustion and cramps, heatstroke and heart failure. This effect can be especially pronounced in people who are unacclimatized to temperature swings that local people may be accustomed to. Additionally, strain on electrical grids during extreme warming events (for example, due to increasing use of air conditioners) may lead to electricity brownouts or blackouts, exposing tourists to high temperatures that they are not usually accustomed to *(724)*.

It is important that tourists are prepared and well informed about the possible thermo-physiological strain of such events on their bodies. Protective measures to mitigate the effects of heat include public health early warning systems, shelter from heat, hydration and technological acclimatization. Public health systems worldwide are generally well prepared for raising awareness of the problem of heatwaves and their threat to health in local populations, including implementation of heat–health action plans to mitigate adverse health effects from extreme heat – particularly in the context of climate change *(725,726)*. Cyprus, Estonia, Luxembourg and Malta are among the many countries in the WHO European Region that have developed national policies on health and climate change, aiming to promote the core elements of heat–health action plans related to a lead body, alert systems, health information plans, strategies to reduce health exposure and care for vulnerable groups *(726)*.

The impact of **storms, flooding and wildfires** on tourist destinations is associated with short-term and long-term health effects. For example, in the immediate aftermath, such disasters cause death, injuries and destruction of infrastructure. In the long term, a sense of loss or the prolonged process of reconstruction can also impair the mental health and well-being of the local community. The limited economic capacity of small countries – especially of small island states – poses challenges to rebounding from disasters and revitalizing the tourism sector *(727)*, especially if the accessibility of a tourism destination is affected *(728)*.

In the short term, flooding events may increase water- and foodborne disease risk severely, and lead to a surge in injuries and trauma in affected areas. Following the 2021 summer floods in Belgium, Germany, Luxembourg and the Netherlands (Kingdom of the), the European Centre for Disease Prevention and Control found very low or low risks for influenza, tetanus, measles, varicella, hepatitis A, Legionella and West Nile virus infections, as well as other mosquito-borne diseases, but intermediate or high infectious disease risk for COVID-19, *E. coli*, *Salmonella* spp., *Cryptosporidium* spp. and norovirus infections *(729)*. In the long term, flooding has been found to be associated with psychological health effects, including PTSD, depression, anxiety, sleep disorders and higher suicide prevalence. It is also associated with physiological impacts including health-related reductions in quality of life, acute myocardial infarction, chronic diseases and malnutrition *(730,731)*. If these problems are not identified and treated early, they may persist for years *(730)*.

The wildfires in 2019, 2020 and 2021 brought an unprecedented level of destruction to both ecosystems and reliant communities, and also affected the local tourism economy. Robust projections show that wildfires are increasing in frequency and intensity owing to increasing frequency of drought, high temperatures and accidental causes *(216,732–734)*. In addition to wildfire fatalities, major health effects of wildfires include burn injuries and effects from released air pollutants from wildfire smoke such as carbon monoxide, black carbon (soot) and – with the greatest impact – particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$) *(735,736)*. For example, people exposed to wildfire smoke in Indonesia had poorer lung capacity, lower self-reported general health and decreased physical functioning *(737)*. Wildfire exposure also leads to increased respiratory and cardiovascular hospitalizations, asthma, bronchitis and chest pain, among other ailments *(738)*,

placing a high financial burden on health systems. Wildfires have a profound impact on tourism, often resulting in a reduction in tourist arrivals following an event *(33)*: tourists may wish to avoid health risks or may choose not to visit because cultural heritage or ecosystems have been destroyed.

8.3.2 Tourism, pollution and health

Nature, intact ecosystems and biodiversity are fundamental for responding to environmental pollution, especially for:

- regulating air quality through production of oxygen, storing of carbon dioxide and cooling and cleaning of the atmospheric environment;
- maintaining and regulating access to and quality of water through soil stability, reduced erosion and sedimentation of water courses, and through processes of filtration and sedimentation to remove pollutants and excess nutrients, while also mitigating health consequences of extreme weather events such as flooding; and
- supporting agricultural systems, such as crop and livestock production, forestry, fisheries and aquaculture, contributing to food security and diverse healthy diets.

Many air pollutants – especially particles, ozone and nitrogen dioxide – affect ecosystems and human cardiovascular, respiratory and metabolic systems, contributing to morbidity and mortality. Microbiological and chemical contamination of water threatens ecosystems and human health: almost 20% of infectious diseases outcomes in the WHO European Region are attributable to inadequate water supply and sanitation, and to significant inequalities in access to clean water across the Region *(696)*. Moreover, microplastic pollution and other chemical and microbial pollutants from human activities in the air and on land affect marine organisms and enter marine food-chains, harming aquatic ecosystems and human health. A further aspect is plastic waste generation due to bottled water consumption in tourist hotspots, where people have limited trust in water supply services *(739)*. Pollution also affects the ability of the oceans to store carbon and regulate the global climate, affecting temperatures and determining rainfall, droughts and floods. This section explores the interlinkages of tourism with the health effects of pollution of air, land and aquatic bodies.

8.3.2.1 Tourism, air quality and health

Air pollution is the number one cause of premature death from environmental factors. It is responsible for over 7 million premature deaths each year, of which 4.2 million can be attributed to outdoor ambient pollution *(740)*. Outdoor air pollution is a major environmental health problem worldwide, affecting everyone in all nations – from low- to high-income countries *(118)*. Among the various types of pollutants, the major ones include carbon monoxide, lead, nitrogen oxides, ozone, $PM_{2.5}$ and particulate matter less than 10 micrometres in diameter (PM_{10}), sulfur dioxide and others (including volatile organic compounds and benzene). The negative health effects of air pollution are multiple; they are not exclusive to physical illness but also show a significant mental health component for increased depression and anxiety disorders *(741–743)*. For tourists, exposure to air pollutants may be limited, depending on the duration of their holiday, location, time of year and level of exposure during the stay – possibly related to a health emergency.

As discussed in the previous section, the tourism sector contributes to air pollution via air, land and sea travel demand, which is often reliant on fossil fuels directly (combustion) or fossil fuel-dependent electrical transport. Air pollution increases for both air and sea travel – notably for cruise liners, which may berth in the port and pollute during their sojourn. The effect of tourism-based increases in road traffic on air pollution generation has been difficult to quantify because tourism is often not included in national industry classification systems and, therefore, is not systematically studied for direct environmental impacts *(744)*. Air pollution has been empirically confirmed to affect tourism development negatively in low-, middle- and high-income countries *(120,745,746)*. Repeated air pollution events may significantly lower the attractiveness of a tourist destination both for health reasons and because of damage to tourist sights, as observed for coastal beach tourism *(747,748)*, historical heritage tourism *(749)* and recreational tourism *(750)*. Reducing air pollution would benefit

the tourism industry, while leading to a significant improvement in the quality of life and health of local residents. Box 32 describes how Mallorca, Spain, commits to evidence-based decision-making to aid in mitigating tourism-related air pollution.

Box 32. Mitigating tourism-related air pollution in Mallorca

Although many tourism destinations are committed to sustainable tourism, some studies have shown a significant relationship between tourism and PM_{10} generation. For example, a 2014 study using a generalized additive model showed that in Mallorca, Spain, a 1% increase in tourist numbers was associated with up to a 0.45% increase in PM_{10} concentration levels, primarily affecting the health of residents *(744)*. To evaluate sustainability criteria and indicators for mitigation schemes against air pollution, Mallorca recently joined UN Tourism's International Network of Sustainable Tourism Observatories. This Network requires observatories to conduct regular and continuous monitoring of tourism's economic, environmental and social impacts at the destination, using specific indicators and measurement techniques *(751)*. Countries that are part of the Network commit to monitoring and reporting the results to UN Tourism.

8.3.2.2 Tourism, water quality and health

Water is a critical resource for tourism *(695)*. As discussed in Chapter 5, contaminated water and poor sanitation contribute to the spread of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio, while mismanagement of wastewater from urban, industrial and agricultural sources leads to dangerous contamination of drinking-water for millions of people *(752)*. Chemical pollutants further exacerbate health concerns that can also be related to tourism. For example, tourism contributes to cadmium pollution via hotel wastewater and increased traffic. At the same time, cadmium pollution of beaches, coastal waters and food also creates risks in tourism environments, and increases human exposure to this toxic metal *(753)*. Another example of tourism impacts on water quality is sunscreen pollution, which affects marine and aquatic resources and environments – such as coral reefs – that are particularly susceptible to small changes in their surroundings *(754)*. Certain sunscreen chemicals, such as oxybenzone, have been found to impair algal growth, affect sea urchin immune and reproductive capacity, decrease fish fertility and reproduction, and negatively affect corals, leading to coral bleaching *(755,756)*.

Increased risks of poor water quality can occur due to increasing demand on sewage treatment facilities during high tourism seasons, which may overwhelm infrastructural capacity and diminish drinking-water and bathing water quality *(757)*. Plastic pollution in marine and aquatic tourism settings is not only an aesthetic issue for tourism competitiveness but can also transport potentially harmful chemicals and invasive species, or can be accidentally ingested, posing multiple threats to human health *(758)*. Although the health impacts of plastic waste are not yet fully understood, the increasing presence of ingested microplastics in both land and sea animals may have serious ramifications as plastics enter the food-chain, affecting human health as humans may also bioaccumulate both plastics and their leachates. Plastics production is set to at least double by 2030, endangering ecosystems and communities worldwide *(759)*. The dangers of plastic pollution have been recognized at an international level, with the endorsement of a landmark agreement by United Nations Member States to address the lifecycle of plastic "from source to sea" *(760)*. Improved access to high-quality drinking-water in tourism settings can prevent life-threatening diseases within host communities and ensure the health and well-being of tourists. Sanitation facilities, wastewater treatment and water supply may not have been designed for large number of tourist arrivals, leaving sanitation and water supply systems overwhelmed, and leading to water quality problems, water scarcity and health incidents.

At the same time, persisting geographical, sociocultural and economic inequalities – in both rural and urban areas – can disproportionately lead to limited access to safe drinking-water for people in host communities living in low-income settlements *(752)*. Addressing drinking-water quality considerably affects the positive image and competitiveness of a tourism destination *(690)*. Tourists

are increasingly taking into account environmental and sustainable factors in their decisions concerning travel, including a desire for high-quality water at the destination. This may give rise to public and private efforts to improve water services at land and on sea *(761)*, and to address pollution of bathing water and drinking-water quality, which can also have an impact on human health *(762)*. One example of improvement in water quality and health outcomes due to sustainable tourism is the "Blue Flag" award for beaches, marinas and sustainable boating tourism operators *(763)*. To qualify for Blue Flag status, beaches are assessed on a series of stringent environmental, educational, safety and accessibility criteria, which must be met and maintained. Such initiatives not only attract tourists, who feel reassured and safe, but also inspire a tourism destination to achieve high standards of water quality for healthy and sustainable tourism.

Alongside prevention of water-related diseases, access to improved water sources leads to lower health-care expenses and better school attendance for children; it also allows people to be healthier and safer, and thus more productive *(752)*. WHO has produced a series of water quality guidelines on drinking-water, safe use of wastewater and recreational water quality. To ensure protection of drinking-water resources, the Guidelines for drinking-water quality *(764)* acknowledge the potential of cross-sectoral collaboration between the health, tourism and other sectors in decisions for land use or regulations. These can be helpful for establishing health-based targets, developing and implementing water safety plans for water suppliers, and independently monitoring and evaluating water safety plans and health-based targets. Indicators for drinking-water quality in tourism settings include the percentage of tourism establishments with water treated to international potable standards, the availability of treated water for the local population and the number of water standard violations *(690)*. While many tourism destinations in the WHO European Region meet international standards for water supply and/or water quality *(765)*, data on the impact of water-related contamination on waterborne illness among tourists, and the perception of cleanliness of food and water are important to address water-related health issues in sustainable tourism development *(690)*.

8.3.2.3 Tourism, the circular economy, waste management and health

The circular economy offers opportunities for tourism destinations to generate well-being for the local population through creation of new jobs and more inclusive and resilient value chains in tourism. Tourism businesses can benefit as new potential arises from the increasing interest of governments and investors to support the circular economy, while increased competitiveness through the transition to circular economies is related to innovation, differentiation and diversification of income streams *(766)*. Private businesses have started to implement their own green policies and certifications, mostly in hotel chains *(767,768)*. The circular economy can also enable tourists to experience purposeful travel, leave a positive footprint and contribute to the transformation of tourism ecosystems. This new attention paid by tourists to their impact at the destination and climate footprint should give added urgency to the move towards a sustainable transition to a circular economy among destinations *(769)*. To support this shift in tourism value chains, UN Tourism runs two initiatives under the umbrella of the One Planet Sustainable Tourism Programme *(770)*:

- the Global Tourism Plastics Initiative to eliminate problematic and unnecessary plastics, integrate reuse models and collaborate across the value chain to increase recycled content and recycling rates; and
- the framework of the Global Roadmap for Food Waste Reduction in the Tourism Sector for sustainable food production, food consumption and more sustainable global food systems, acknowledging the fact that agriculture is currently the major cause of biodiversity loss.

While it has gained prominence in policy development and business practices, discussion about the potential health benefits and health risks associated with transitioning to a circular economy has received limited attention. Health benefits include cost savings in health care, reduced environmental health impacts from production and consumption, and improved resource management for health service delivery *(771)*. In environmental health, material waste – especially (micro)plastics – has been discussed extensively. The environmental damage of waste, and related impacts on health and tourism, can take various forms, including risk of contamination and disease

from human waste, emissions of toxic gases, leaching into water tables, poisoning of ecosystems and contributing to greenhouse gas emissions. Linear economies, in contrast to circular economies, generate large amounts of solid, liquid, organic, recyclable and hazardous waste *(772)*. Integration of sustainable consumption and production into the tourism value chain – including solutions that go beyond technical resource-efficiency measures – can be developed to ensure outcomes that span the full dimensions of sustainability *(759,773)*.

However, the transition to a circular economy also brings risks of adverse health effects – particularly concerning hazardous materials *(771,774)*. Understanding of the health impacts of a circular economy – particularly related to chemicals of concern, water reuse, electrical and electronic waste, and distributional effects – is especially important for vulnerable groups, such as low-income populations and children engaged in informal work practices, who are disproportionately affected by these factors. Moreover, collaboration between various stakeholders in the health and tourism sectors – including intergovernmental organizations, governments, businesses, NGOs and the public – is essential for promoting health benefits and mitigating risks of the transition to tourism within circular economies. Appropriate regulation and monitoring of circular economy initiatives, support for research, improved management of waste sites, and public awareness campaigns are required to address immediate concerns and prevent setbacks in implementing the circular economy and realizing its potential health benefits *(771)*.

8.3.3 Tourism, biodiversity loss and health

Biodiversity is of the utmost importance for tourism and health. It is key to countries' resilience against climate change, pollution and threats of diseases. Well-functioning ecosystems are crucial for clean air, fresh water, medicines and food security, while also limiting diseases and stabilizing the climate *(775)*. Moreover, the Health and Well-Being Specialist Group of the International Union for Conservation of Nature and Natural Resources (IUCN) World Commission on Protected Areas emphasizes the essential connection between nature and human physical, mental, social and spiritual health *(776)*. Many tourism destinations rely heavily on natural attractions such as coasts, mountains, rivers, forests and wildlife, which contribute to their appeal and economic viability *(777)*.

Global biodiversity loss due to human activities poses a threat to ecosystems *(701)*. Unsustainable tourism development – including poorly located infrastructure and visitor behaviour – has contributed to the degradation of coastal areas, mountains and other fragile environments. This has also led to economic consequences, affecting fisheries, tourism attractiveness and overall ecosystem functioning *(777)*. Moreover, the degradation of soil, air, water and biological resources discussed in this chapter can have a negative impact on food security and on consumer choices and business opportunities in tourism, as well as on public health. For example, the decline in biodiversity and ecosystem stability has been linked to epidemic infectious diseases such as Ebola virus disease *(775)*. The consequences of biodiversity loss range from economic disruption – including in the tourism sector – to zoological pandemics and human alienation from the natural world. Additionally, imbalances in the ecosystem and habitat alteration and destruction are putting thousands of species at danger of extinction; this may lead to the emergence of pests that damage crops and human health *(778)*.

Reversing biodiversity loss and ensuring the longevity of human health and planetary well-being requires collective action and efforts from all sectors and all segments of society *(778)*. Various global agreements and initiatives provide frameworks for protecting and restoring ecosystem services and biodiversity in tourism settings *(779)*. The tourism sector plays a crucial role in biodiversity conservation, and is an important partner for other sectors to integrate biodiversity considerations into planning and decision-making processes. Close partnerships for conservation between the health and tourism sectors are crucial for improving surveillance of infectious diseases in wildlife and human populations, and for enhancing access to green spaces to promote physical activity and mental health *(775)*.

For example, the IUCN World Commission on Protected Areas Health and Well-Being Specialist Group promotes partnerships, evidence-building and knowledge dissemination to integrate nature's benefits into policies and plans, with goals of strengthening the evidence base, mainstreaming health

and well-being considerations, and facilitating global partnerships *(776)*. It collaborates with related IUCN groups like #NatureForAll and the Urban Conservation Strategies Specialist Group and with ecosystem services groups to connect people with nature. Moreover, the IUCN advocates decisive action to halt biodiversity loss by 2030 and achieve recovery and restoration by 2050 *(780)*. This includes protection of at least 30% of terrestrial, freshwater and marine ecosystems by 2030, based on the IUCN Green List of Protected and Conserved Areas *(781)*. The Post-2020 Global Biodiversity Framework *(780)* aims to address the unprecedented decline in biodiversity, which is eroding economies, livelihoods, health, food security and quality of life, focusing on four key components to place nature at the centre of the economy:

- effective management and governance of protected and conserved areas (PCAs)
- integration of species conservation into global economic and development policies
- natural habitat and ecosystem restoration
- increased financial resources and investment for biodiversity.

8.3.3.1 Nature-based solutions for health and tourism

Nature-based solutions (NbSs) involve methods to safeguard, oversee and rejuvenate natural or altered ecosystems, constituting a comprehensive, cross-disciplinary strategy to tackle societal challenges and certain environmental threats, while offering advantages for both human well-being and biodiversity.

Particularly effective in dense, impermeable and susceptible neighbourhoods, NbSs can aid in heat reduction and surface water management *(782)*. Access to affordable public transportation contributes to empowerment and autonomy in daily activities for host communities, while green spaces provide opportunities for social and health-promoting activities, enhancing overall well-being *(783)*. Health and well-being benefit from a proliferation of green spaces and NbSs citywide, particularly in vulnerable districts, with public authorities setting precedents through initiatives like public green infrastructure projects. Tourism can be an important driver to enforce minimum green space ratios in local regulations – including residential gardens and private open spaces – and to regulate prevalence of cool roofs and green roofs and walls that will be attractive to tourists. Notably, as cities draw tourism, nature- and ecosystem-centric approaches within urban contexts exhibit substantial potential advantages for both the environment and human well-being *(782)*. Urban planners and decision-makers play crucial roles in promoting recreational walking and cycling for exercise or pleasure, and in optimizing tourism-related infrastructure. Urban green spaces and long-distance cycling networks, often integrated with urban cycling infrastructure, are emerging as attractive draws for tourism *(119)*.

NbSs can be applied across diverse tourism settings, including coastal municipalities, urban planning, the building sector, agriculture, food, winter camping, destinations, cultural products, human–equine experiences and community participation *(784)*. In addition, blue spaces – such as marine and coastal tourism areas, rivers and lakes – have been found to improve psychological and physiological health and well-being, including depression and stress reduction, better pregnancy outcomes, CVD reduction, and attention restoration processes *(785)*. Blue tourism programmes, such as the Blue Tourism Initiative and Blue Flag programme, can promote and protect planetary well-being through social interaction, increased physical activity, and reductions in noise pollution, air pollution and temperatures. Combining green and blue infrastructure also offers complementary cooling effects and enhances ecosystem services *(786)*.

Promoting and safeguarding urban green and blue areas as NbSs yields manifold benefits for mitigating and preparing for various emergencies *(782)*. Combining green and blue NbSs in tourism has been found to be beneficial for flood and drought protection, synergies of water, food and energy consumption and protection, and water purification in tourism settings. This leads to improvements in water quality, increasing biodiversity, social co-benefits, improved urban microclimates, and reductions in energy consumption through improved indoor climates *(787)*.

Another example of NbSs – ecosystem-based adaptation (EbA) – has been applied to manage environmental risks in communities through ecosystems, while also including readiness for climate change and improving community resilience. EbA has been defined as "an intervention which has restored, maintained or enhanced the capacity of ecosystems to produce services on which local human communities depend for their well-being, adaptive capacity or resilience, and which reduces vulnerability, and allows the ecosystem to withstand climate change impacts and other stressors" *(788)*. In 2020, an assessment of EbA initiatives for tourism in the Pacific islands showed that locally funded initiatives and those implemented by NGOs were more likely to perform better, and climate awareness-raising initiatives performed best *(789)*. To ensure sustainability, the findings recommend that adaptation efforts are locally led: community members are more likely to know the strengths and resources of their own communities, and to know how to plan for a more resilient future given the status quo *(789,790)*.

NbSs, including EbA, environmental engineering and "building with nature", play a key role in ensuring the viability of human interventions for the future of sustainable tourism *(791–793)*.

8.3.3.2 PCAs for health and tourism

Throughout human history, PCAs have been noted in various traditions worldwide, including as hunting grounds and national parks, or combining environmental conservation and economic benefits from tourism promotion. The understanding of PCAs incorporates cultural values and the role of Indigenous peoples in protected areas, economic considerations of tourism systems, growing recognition of the economic importance of protected areas in providing environmental services, and an emphasis on developing national systems for biodiversity conservation *(794)*. PCAs are cost-effective solutions for the benefit of planetary health and well-being that can reduce land-use change, safeguard biodiversity and ecosystem services, mitigate climate change, and reduce the risk of future pandemics *(778,795)*. The IUCN has developed the following six One Health principles, considering the relevance of the interconnectedness of human, animal and environmental health for a resilient and sustainable future, and providing practical strategies for stakeholders in PCAs and tourism *(699)*.

- Promote and protect the health of humans and other species.
- Proactively manage health threats in ways that minimize degradation of ecosystems or produce co-benefits for nature.
- Take into account context when designing or adapting disease risk reduction and resilience approaches.
- Empower visitors and tour operators to be good stewards of their health and the health of the local communities and ecosystems they visit.
- Ensure the equitable sharing of knowledge and benefits from tourism-based research and surveillance.
- Coordinate and collaborate across sectors to support prevention, detection, response and recovery from disease threats.

Beyond biodiversity protection, climate change mitigation and local economic development, PCAs, along with other NbSs, offer important opportunities for preventing future pandemics and improving physical and mental health *(795)*. Moreover, a recent World Bank report showed that promoting sustainable protected tourism areas greatly benefits local economies and the overall health outcome of societies, stating that "for every dollar governments invest in protected areas and support for nature-based tourism, the economic rate of return is at least six-times the original investment" *(796)*.

Despite the huge potential of PCAs to create economic benefits, however, there are significant financing gaps for environmental protection. Investing in PCAs as part of pandemic recovery in tourism is a smart investment in the economy and public health, addressing the climate and biodiversity crises simultaneously. Such investments by governments and private institutions could include support for existing and new PCAs in recovery strategies, promoting effective and equitable governance of PCAs, and avoiding rollbacks of budgets and regulations that affect PCAs and the

rights of Indigenous peoples and local communities *(795)*. Cross-sectoral and multilevel cooperation is instrumental in supporting diverse stewards and governance types of PCAs, to find synergies with other national strategies for reversing biodiversity loss and to avoid rollbacks or weakening of regulations and budgets. Moreover, international cooperation across national boundaries is often required to manage PCAs effectively *(778)*. Sustainable finance, diversification and innovation are key concerns in managing PCAs effectively, including various financing mechanisms such as debt-for-nature swaps, green and blue bonds, and reallocating subsidies that undermine biodiversity *(795)*.

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9. Conclusions

9.1 Putting health at the heart of tourism development

Putting health at the heart of tourism development requires a comprehensive and integrated approach that considers the well-being of tourists, tourism workers, host communities and the environment. Key strategies to prioritize health in tourism development include the following.

Health should be integrated into tourism policies by:

- embedding health considerations in national and regional tourism policies;
- developing guidelines and standards that promote health and safety in tourism settings; and
- collaborating with health authorities to ensure alignment with public health goals.

Health systems should be strengthened by:

- investing in robust health systems with a focus on accessibility, quality and responsiveness to the needs of both tourists and host communities;
- providing training for health-care professionals that is tailored to the unique demands of tourism settings; and
- establishing and enforcing health regulations and standards for tourism-related businesses.

Public health initiatives should be promoted by:

- implementing public health campaigns targeting tourists and local communities, emphasizing preventive measures and healthy behaviours;
- encouraging vaccination programmes – especially in regions prone to infectious diseases; and
- developing and disseminating information on local health-care services and emergency contacts.

Emergency preparedness should be enhanced by:

- developing and regularly updating emergency response plans for tourism destinations, considering the dynamic nature of health challenges; and
- ensuring adequate health-care infrastructure and resources to handle potential health crises, including mass gatherings and high tourist influxes.

Collaboration between the health and tourism sectors should be fostered by:

- facilitating communication and collaboration between health and tourism authorities at the local, national and international levels;
- establishing joint initiatives to address health challenges, share best practices and coordinate emergency responses; and
- integrating health considerations into tourism destination management plans.

Technology should be used for health monitoring, including by:

- implementing digital health solutions for monitoring, managing and disseminating health information tailored to the needs of tourists;
- developing technology-driven early warning systems for emerging health issues in tourism destinations; and
- leveraging data analytics to identify health trends and inform proactive measures.

Environmental sustainability should be prioritized by:

- integrating environmental sustainability practices into tourism development to address climate change impacts, reduce pollution and conserve natural resources; and
- implementing eco-friendly initiatives to benefit both local populations and tourists.

Local communities should be empowered by:

- involving community members in decision-making processes related to tourism development;
- promoting community health and well-being through inclusive economic strategies and social protection; and
- encouraging tourism activities that respect and preserve local cultures, traditions and lifestyles.

Research and data collection should be supported by:

- addressing methodological challenges in health tourism research to generate comprehensive data;
- investing in studies that explore the impact of tourism on NCDs, mental health, gender dimensions and the environment–health–tourism nexus; and
- promoting collaboration between researchers, governments and the private sector to bridge existing research gaps.

Education and awareness-raising activities should include:

- providing training and educational programmes for tourism stakeholders, emphasizing the importance of health and safety;
- raising awareness among tourists about the impact of their behaviour on local health and well-being; and
- encouraging responsible and ethical tourism practices that prioritize the health of both visitors and host communities.

By adopting these strategies, stakeholders can ensure that health becomes a central consideration in the planning, development and management of tourism destinations, contributing to sustainable, inclusive and resilient tourism.

9.2 Forms of tourism with health at the heart

Forms of tourism that prioritize health at their core can play a pivotal role in promoting sustainable development and enhancing human, social, economic and environmental well-being.

Human well-being can be enhanced through:

- health-focused tourism, which encourages activities that contribute to physical and mental well-being, fostering healthier lifestyles among tourists and host communities and improving health outcomes; and
- tourism that integrates health services, ensuring access to high-quality health care for both tourists and local populations, promoting overall health and accessibility of tourism for all, and reducing health disparities.

Social well-being can be bolstered via:

- health-centric tourism, which actively involves local communities, engaging and empowering them through participation in decision-making processes and benefiting from tourism-related activities; and
- sustainable tourism, which respects and preserves local cultures, contributing to the social fabric of communities, and fostering intercultural understanding and inclusion of Indigenous communities.

Economic well-being can be boosted through:

- health-oriented tourism employment, which promotes the health and well-being of tourism workers, including through social protection and job security, as well as creating employment opportunities in health care, wellness and related sectors, contributing to economic diversification and reducing dependency on a single industry; and
- a tourism sector focused on health and well-being, which ensures that local and small businesses and vulnerable populations are cared for, including women, young people and migrants, contributing to the growth of the local economy.

Environmental well-being can be supported via:

- health-focused tourism that promotes eco-friendly practices, emphasizing environmental sustainability through responsible tourism activities that minimize ecological impact, address climate change and reduce pollution, including using circular economy approaches;
- encouraging activities such as nature and rural tourism and environmentally sustainable tourism management – including more NbSs and PCAs – to contribute to conservation of natural resources, protecting biodiversity and ecosystems;
- health-centric tourism that aligns with various SDGs, including SDG 3 (health and well-being), SDG 8 (decent work and economic growth), SDG 11 (sustainable cities and communities) and SDG 12 (responsible consumption and production); and
- health-focused tourism that actively addresses health disparities and promotes inclusive practices, contributing to the broader agenda of inclusive development and leaving no one behind, as outlined in the SDGs.

Tourist satisfaction and loyalty can be increased through:

- positive tourist experiences with a focus on health and well-being, leading to increased satisfaction and the likelihood of repeat visits;
- promotion of healthy lifestyles, inspiring tourists to adopt and maintain healthier lifestyles even after returning home, contributing to long-term well-being; and
- tourism that prioritizes health, making it better equipped to handle health crises – as seen with the COVID-19 pandemic – ensuring the safety of tourists, host communities and the resilience of the destination's health system.

By embracing a holistic approach, such forms of tourism can serve as a catalyst for positive change, promoting a balance between the economic benefits of tourism and preservation of the environment and well-being of local communities.

9.3 Rethinking health and tourism and applying a holistic approach

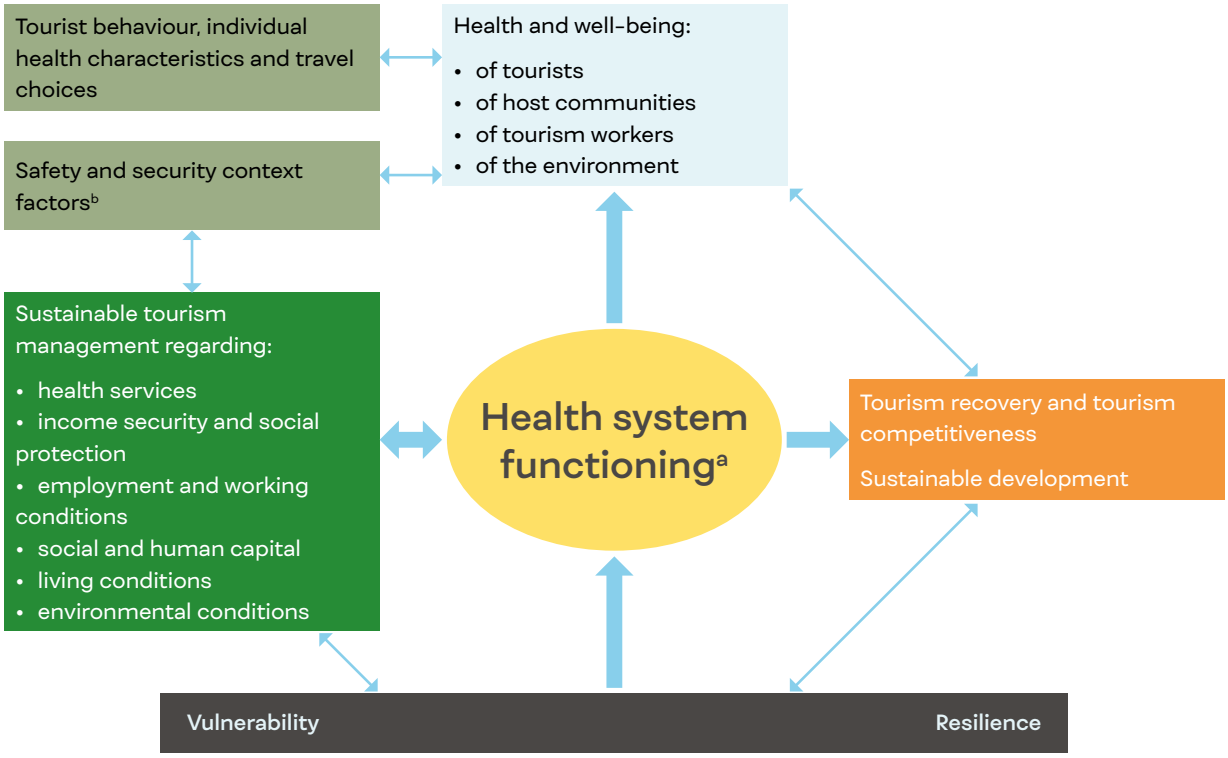
The COVID-19 pandemic has provided a historic momentum for rethinking the interconnectedness of health and tourism in a globalized world that is shaken by multiple and growing conditions of uncertainty – including climate change, digitalization, health crises, economic shocks, war and conflict. The mutually affecting relationship of health and tourism demands a holistic approach that places the health and well-being of tourists, tourism workers and host communities – as well as the environment, safety and security – at the forefront of sustainable tourism development. At the same time, this report recognizes health system functioning as the cornerstone needed for tourists and host communities to thrive, improving health and human, social, economic and environmental well-being.

The pandemic further highlighted the importance of health resilience for sustainable development *(14)*. Resilient health systems aim to create long-lasting and holistic solutions and procedures to address challenges for individuals, communities and the overall system – including those emerging from global tourism and arising in tourism settings. Environmental sustainability, health equity, impacts of tourism on local communities and working conditions in the tourism sector have increasingly been considered key factors in this regard.

At the same time, the COVID-19 crisis brought to light various factors of vulnerability threatening health system functioning and global tourism alike. Small countries face specific vulnerabilities, mostly associated with their small size, which constrain their ability to provide effective health services to their residents *(47)*. The domestic capacity gap is an essential factor for coping with vulnerabilities and building resilience in small countries. For example, small countries often rely on support from larger countries for education and training of health specialists *(62,797)*; this can result in dependency on the larger countries' political situations and interests. Cutbacks in external support and shelter at short notice can lead to shortages of health workers in small countries *(798)*. This was demonstrated during the pandemic, when small countries faced a number of constraints, and often found themselves with little bargaining power *(799,800)*. Likewise, small countries witnessed significant losses in revenue and employment in the tourism sector during COVID-19. In this regard, balancing self-reliance and multisectoral, multilevel and international cooperation has been recognized a key resilience factor for coping with domestic capacity gaps.

This report recognizes vulnerability and resilience factors as fundamental characteristics of tourism destinations. These affect the functioning of health systems and, at the same time, are interconnected with the sustainability of tourism management and tourism development, as well as tourism recovery and tourism competitiveness. Fig. 14 shows a theoretical model that reflects the complex lines of interaction between health and tourism, with arrows indicating the interconnectedness of different aspects of health and tourism.

Fig. 14. The complexity of the health–tourism nexus



[a] Health system components at destinations include governance and leadership; investment for health and health financing; quality of health services, especially in emergencies and planned patient mobility; preventive measures such as vaccines; well-trained health workers; access to essential medicines, diagnostic facilities and technologies; and targeted health information systems.

[b] Security and safety context factors at destinations include geography, weather and environment risks; food and water safety conditions; risks of communicable diseases; travel modalities; and risks related to terrorism, homicide, crime and violence.

Fig. 14 shows that the health benefits and impacts of tourism are interleaved with different tourism types and forms, travel modes, individual characteristics of tourists, tourists' behaviour, host community characteristics, tourism employment, quality of care and health system functioning, and existing safety, security and hygiene measures, including food and water safety conditions. Destinations with solid and inclusive health systems, good hygienic conditions and safe travel conditions – including environmental health, surveillance and prevention of infectious disease spread, NCD and emergency care, mental health services, trauma care, protection of SRHR, road safety, and effective and high-quality promotion and preventive services – are better positioned to attract visitors and contribute to sustainable tourism development.

9.4 Methodological limitations and future research

The literature review on health and tourism has brought to light a number of methodological challenges – in particular the complexity of the research area and fragmented data and research gaps. It is difficult to make the relationship between health and tourism visible without generalizing and applying attribution bias, while drawing systematic and evident conclusions on this enormously heterogeneous sample and all-encompassing, multisectoral field of study. Further, research gaps are apparent for tourism-related NCD needs and tourism advantages for the host community; prevention strategies on injuries and violence, making tourism destinations a safe place for tourists and residents; the gender dimension of health and tourism; legislation that ensures access to SRHR at all times; mental health and well-being in tourism settings; and the environment–health–tourism

nexus, among many others. Beyond research traditions on travel and infectious disease spread, tourists might require primary and high-quality (emergency) health care, as mental health and NCD conditions can deteriorate in relation to tourism, although NCDs are usually not directly caused by short-term tourism activities. Fragmented data and diverse use of survey methods – especially among countries and research institutions – complicate the comparability of data, while small countries are generally an under-researched study area. Well-known challenges, such as negative bias in health research, publication bias, epidemiological information bias, confounding bias, and over-reporting on inevitable and easily quantifiable surveillance of infectious diseases need to be overcome. Prioritizing quality over quantity could be a starting-point to consider the effects on quality of life of tourists and host communities, instead of quantifying health risks.

Based on the conclusions provided, several areas emerge as potential avenues for future research, where further investigation is needed to deepen understanding of the interplay between health and tourism.

- Research could explore the **long-term impacts of COVID-19 on tourism and health**, including the enduring effects of the COVID-19 pandemic on the tourism sector and the long-term consequences on the health and well-being of communities, workers and tourists.
- Investigating **inclusive economic strategies in tourism** that address the disproportionate impact of declining international tourism on vulnerable groups – including women, young people, migrant workers and informal sector employees – is essential for creating resilient and equitable tourism models.
- Examining the effectiveness of **sustainable tourism practices** in promoting health and well-being, cultural preservation, and inclusive development would provide insights into best practices for destinations seeking to balance economic growth with environmental and social sustainability.
- A focused study on the prevalence of **tourism-related NCDs** among tourists and the potential impact on host communities, along with strategies for prevention and management, is needed to address the gap in understanding health risks associated with specific tourism activities.
- Research should delve into the **gender and health dimensions of tourism**, examining how tourism affects men and women differently, with a particular focus on issues such as access to SRHR, working conditions and safety.
- Dedicated research on the **mental health implications of tourism**, including benefits from tourism activities, stressors unique to travel, potential mental health deterioration, including among tourism workers and effective interventions, is warranted.
- A comprehensive examination of the **environmental health aspects of tourism**, considering climate change impacts, pollution and conservation measures, would contribute to a more thorough understanding of the intersection between environmental sustainability and public health in tourism destinations.
- Conducting a **comparative analysis of health systems** in various tourism destinations could provide valuable insights into the relationship between the strength of health systems and tourism competitiveness, helping to identify best practices for ensuring the health and well-being of both tourists and host communities.
- Research exploring **innovative approaches to health promotion in the tourism sector**, including technology-driven solutions, could shed light on how advances in digital health and information systems can enhance safety and well-being for tourists and communities.
- Understanding the nuances of **tourist behaviour and its impact on health** is critical. Research could investigate how individual choices, preferences and behaviours influence health outcomes, and how destinations can tailor interventions to promote healthier choices.
- Research on **building resilience in both health systems and tourism sectors for effective crisis management**, including health-related emergencies and disruptions, would contribute to shaping policies and practices for future sustainable, inclusive and health-centred tourism development.

These research areas reflect the complexity and multidimensional nature of the health–tourism nexus, providing opportunities for scholars, policy-makers and practitioners to contribute to the advancement of knowledge and development of sustainable strategies for the intersection of health and tourism.

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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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