

# THE SUSTAINABILITY OF HEALTH CARE SYSTEMS IN EUROPE

**Edited by** Badi H. Baltagi  
and Francesco Moscone

CONTRIBUTIONS TO ECONOMIC  
ANALYSIS

**VOLUME 295**

THE SUSTAINABILITY OF  
HEALTH CARE SYSTEMS  
IN EUROPE

This page intentionally left blank

CONTRIBUTIONS TO ECONOMIC ANALYSIS 295

# THE SUSTAINABILITY OF HEALTH CARE SYSTEMS IN EUROPE

EDITED BY

**BADI H. BALTAGI**

*Syracuse University, USA*

**FRANCESCO MOSCONE**

*Brunel University London, UK and  
Cà Foscari University of Venice, Italy*



United Kingdom – North America – Japan  
India – Malaysia – China

Emerald Publishing Limited  
Howard House, Wagon Lane, Bingley BD16 1WA, UK

First edition 2021

Copyright © 2021 Emerald Publishing Limited



Chapter 1, Positive externalities of EU actions on sustainability of Health Systems is Open Access. (C) 2021, Sophie Guthmuller, Paolo Paruolo, Stefano Verzillo.

Published by Emerald Publishing Limited. This work is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute,

translate and create derivative works of these works (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>



#### Reprints and permissions service

Contact: [permissions@emeraldinsight.com](mailto:permissions@emeraldinsight.com)

No part of this book may be reproduced, stored in a retrieval system, transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the publisher or a licence permitting restricted copying issued in the UK by The Copyright Licensing Agency and in the USA by The Copyright Clearance Center. Any opinions expressed in the chapters are those of the authors. Whilst Emerald makes every effort to ensure the quality and accuracy of its content, Emerald makes no representation implied or otherwise, as to the chapters' suitability and application and disclaims any warranties, express or implied, to their use.

#### British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-83909-499-6 (Print)

ISBN: 978-1-83909-498-9 (Online)

ISBN: 978-1-83909-500-9 (Epub)

ISSN: 0573-8555 (Series)



ISOQAR certified  
Management System,  
awarded to Emerald  
for adherence to  
Environmental  
standard  
ISO 14001:2004.

Certificate Number 1985  
ISO 14001



INVESTOR IN PEOPLE

# CONTENTS

<i>Introduction</i>	<i>vii</i>
<b>Positive Externalities of EU Actions on Sustainability of Health Systems</b>	<b>1</b>
<i>Sophie Guthmuller, Paolo Paruolo and Stefano Verzillo</i>	
<b>Disease Prevalence Across Europe: New Evidence from SHARE</b>	<b>23</b>
<i>Elena Bassoli, Agar Brugiavini and Giacomo Pasini</i>	
<b>Policies and New Reforms to Address the Sustainability of the National Health Service and Adult Social Care in England</b>	<b>43</b>
<i>Stuart Redding, Richard Hobbs, Catia Nicodemo, Luigi Siciliani and Raphael Wittenberg</i>	
<b>The Sustainability of Ireland's Health Care System</b>	<b>61</b>
<i>John Cullinan, Sheelah Connolly and Richard Whyte</i>	
<b>The Economic Sustainability of the Norwegian Healthcare System</b>	<b>81</b>
<i>Eline Aas, Tor Iversen and Oddvar Kaarboe</i>	
<b>Sustainable Health Care and Health Care Reforms in Denmark 2000–2020</b>	<b>103</b>
<i>Søren Rud Kristensen and Kim Rose Olsen</i>	
<b>Sustainability of the Polish Health Care System</b>	<b>117</b>
<i>Christoph Sowada and Iwona Kowalska-Bobko</i>	
<b>The Czech Health Care System</b>	<b>139</b>
<i>Paola Bertoli, Lucie Bryndová and Jana Votápková</i>	
<b>The Austrian Healthcare System: Changes and Challenges</b>	<b>153</b>
<i>Alexander Ahammer, Rene Wiesinger and Katrin Zocher</i>	

<b>Sustainability in the French Health System</b>	167
<i>Rosalind Bell-Aldeghi, Florence Jusot and Sandy Tubeuf</i>	
<b>The Spanish Health-care System</b>	189
<i>Guillem López-Casasnovas and Héctor Pifarré i Arolas</i>	
<b>The Financial Sustainability of the Portuguese Health System</b>	209
<i>Eduardo Costa, Rita Santos and Pedro Pita Barros</i>	
<b>Managing Health Shocks: An Analysis of the Italian Government Approach With the Covid-19</b>	231
<i>Nicolò Cavalli, Francesco Moscone and Catia Nicodemo</i>	
<i>Index</i>	237

# INTRODUCTION

The rapid evolution in the structure of society and the economy which occurred over the last decades has created new demands for healthcare services, ultimately putting pressure on policy makers whose concern is primarily related to the sustainability of the health care sector. Policy makers, while waiting for the discovery of effective treatments, are called for action in adjusting to these new demands and improving the organisation of health care and social services delivered to the population. Overall, policy makers understand the need to improve the efficiency of the health care delivery system, as well as tackle the shortage of health professionals, growing health inequalities and inequity to access in healthcare.

The first two contributions of this volume focus on the sustainability of health care systems at the European level. In particular, Guthmuller, Paruolo and Verzillo summarise the role of EU action in supporting health care policies in the EU Member States, emphasising the importance of coordinated actions. Brugiavini and Pasini exploit data from the Survey of Health, Ageing and Retirement in Europe to explore regional- and cohort-level differences in disease prevalence across Europe. The remaining chapters look at the sustainability of national health care systems mainly focussing on a single country, looking in particular at the key features and challenges of national health care systems and discussing recent reforms as well as possible approaches to be implemented in order to improve their financial sustainability. The countries studied are England, Ireland, Norway, Denmark, Poland, The Czech Republic, Austria, France, Spain, Portugal and Italy. Common challenges identified by these studies as contributing to the increase in health care costs are the ageing population, the rising rates in chronic illness, as well as supply side issues such as labour costs and rising prices for pharmaceutical products, therapies and new technologies. The chapters in this volume examine recent reforms as well as identify possible interventions targeting these issues, with the aim to make health care more financially sustainable. Finally, most of the chapters in this volume also discuss the implications and challenges induced by the COVID-19 pandemic on the national health care systems.



This page intentionally left blank

# POSITIVE EXTERNALITIES OF EU ACTIONS ON SUSTAINABILITY OF HEALTH SYSTEMS\*

Sophie Guthmuller,<sup>1,2</sup> Paolo Paruolo,<sup>1</sup>  
and Stefano Verzillo<sup>1</sup>

## ABSTRACT

*This chapter summarises the role of EU actions in supporting healthcare policies in the EU Member States, both looking at implemented actions and describing current priorities for the future. It argues that these coordinated actions can be beneficial for EU Member States by helping them to avoid duplication of effort and to attain economies of scale. Moreover, data sharing with proper safeguards can unleash vast amount of 'learning what works' both*

---

\*The views set out in this paper are those of the authors and do not necessarily reflect the ones of the institutions of affiliation. All authors have equally contributed to the preparation of the manuscript. The authors acknowledge useful comments on a previous version of the chapter from Benedetta Martinelli, Santiago Alvaro Calvo Ramos, Ciarán Nicholl, Sandra Caldeira, Manola Bettio, Annett Roi Januch, the Editors and a Referee. This research was conducted while Sophie Guthmuller was in service at the European Commission's Joint Research Centre. The final revisions of the text of the chapter have been conducted when Sophie Guthmuller took service at the Health Economics and Policy Group of Vienna University of Economics and Business. Correspondence to Sophie Guthmuller.

<sup>1</sup>European Commission, Joint Research Centre, Ispra, Italy.

<sup>2</sup>Health Economics and Policy Group, Vienna University of Economics and Business, Austria and RWI Research Network, RWI Essen, Germany.

---

The Sustainability of Health Care Systems in Europe  
Contributions to Economic Analysis, Volume 295, 1–21



Chapter 1, Positive externalities of EU actions on sustainability of Health Systems is Open Access. © 2021, Sophie Guthmuller, Paolo Paruolo, Stefano Verzillo. Published by Emerald Publishing Limited. This work is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of these works (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/legalcode>

ISSN: 0573-8555/doi:10.1108/S0573-855520210000295006

*for medical treatments and for healthcare sustainability measures. The need for this common learning appears ever more urgent while facing the health and economic consequences of the present pandemic.*

**Keywords:** Health policy; Europe; sustainability; health system; evidence-based policy; what works

**JEL classification:** I18

## INTRODUCTION

Over the last 15 years, European Union (EU) health systems have faced growing common challenges: an increasing cost of healthcare, the ageing of population, a rise of chronic diseases and multi-morbidity leading to growing demand for healthcare, the shortage of health professionals, growing health inequalities and inequity in access to healthcare. These challenges are exacerbated by recent economic crises, including the financial crisis of 2008 and the one created by the containment measures for the COVID-19 pandemic, which impact the ability of EU Member States to finance healthcare.

Common shocks and growing interdependence require closer coordination in the EU. Member States are responsible for the national health systems and their financing. The role of the EU mainly follows from the subsidiarity principle, which foresees that EU actions are undertaken if they are expected to be more effective than actions taken at national, regional or local level. This is linked with the principle of proportionality, which states that EU actions should not exceed what is strictly necessary for the objectives of the Treaties.<sup>1</sup>

Sustainability of the health system, from the fiscal, financing, and access angles is important in ensuring the fundamental health rights of EU citizens.<sup>2</sup> It is also important to address social consequences of economic crises, because people's health is influenced by them and it influences economic outcomes in terms of productivity, labour supply, human capital, with a feedback loop to public spending and hence to the financing of health systems.

The EU has a large policy portfolio, which includes both regulation and guidance and spending programmes, with expected impacts on the environment, social outcomes, consumer protection and the Internal Market. These interventions have often indirect impact on health outcomes. Moreover, the EU also takes direct actions. This chapter aims to:

- describe the broad areas of actions of the EU and its structural functioning;
- summarise implemented EU interventions and available evidence on sustainability;
- introduce challenges for EU Health Policy and the current outlook on them, including how to better prepare for health emergencies (learning from the actual COVID-19 pandemic) and how to improve the sustainability of healthcare systems.

The chapter also observes that sharing data and evidence of 'what works' is one additional channel to generate positive externalities of EU actions, in view of increasing the efficiency and the long-term sustainability of healthcare systems.

The current COVID-19 pandemic is putting public health policy on top of public agenda (media, politics, society), and it is making clear that more coordination, cooperation and common learning among EU health systems is more necessary than ever. Learning what works appears central for ‘evidence-informed policy making’, see e.g., [Crato and Paruolo \(2019\)](#) for a recent exposition.

The rest of the chapter is organised as follows. Section 2 summarises the role of EU actions to improve sustainable health systems. Section 3 describes past EU actions and selected available evidence, while Section 4 looks forward to how current priorities can generate positive externalities for EU Member States. Section 5 concludes.

## ROLE AND ACTIONS OF THE EUROPEAN UNION

The role of the EU in Health is to improve healthcare and the health status of its citizens by fostering collaboration among Member States, health promotion activities and financial support.

### *Legal Background*

The EU role in Public Health and Social Policy is a competence shared with EU Member States, as defined under Article 168 and Article 153 of the Treaty on the Functioning of the European Union. While Member States define and deliver their national health services and medical care, the EU seeks to complement national policies to ensure health protection in all EU policies, with the definition of Community health strategies following the subsidiarity and proportionality principles.

Community public health objectives were first defined in 1993, after the ratification of the Maastricht Treaty in 1992 (Article 129) including programmes on cancer, on AIDS and on combating drug dependence; this included a mandate to report on the state of health in the EU and to provide recommendations on blood safety. From 2002, public health objectives are revised and integrated into a common Health Strategy ([European Parliament and Council, 2002](#)).

Today, a health perspective is included in all EU policies; this is viewed as an investment to achieve sustainable and inclusive growth. The health sector in Europe falls under the rules set by the Internal Market (Single European Act, 1986) in which the freedom of movement of goods, services, people and capital is ensured. The different freedoms of movement imply that the EU may affect national health systems through harmonised regulation concerning goods, services, and people in the health sector. Examples include pharmaceuticals, medical devices, pharmacy, the health workforce, e-health, social security coordination, and cross-border healthcare and patient mobility across EU Member States.

European healthcare systems, and in particular healthcare expenditures in EU Member States, are also affected by rules on the Internal Capital Market and by the EU objective of fiscal sustainability, the so-called Stability and Growth Pact.<sup>3</sup>

### *Health Strategy*

The EU has defined principles and strategic issues within a common Health Strategy since 2002. These principles and strategic themes are regularly revised to

address common health challenges faced by EU Member States. A ‘New Health Strategy’ was defined in 2007 ([European Commission, 2007](#)). This provided a strategic framework including core issues in (global) health and introduced a health perspective in all EU policies for the first time. It defined three main objectives: (1) to foster good health in an ageing Europe, (2) to protect EU citizens from health threats and (3) to support new technologies and EU Member States’ healthcare systems.

For these objectives, the EU gave key statements on health system values and sustainability. In 2006, the Council of Health Ministers agreed on common health system values of universality, access to good quality care, equity, and solidarity. These common values are also in accordance with the principles and rights declared in the European Pillar of Social Rights in 2017 ([European Pillar of Social Rights, 2017](#)), and confirm healthcare as a common European priority.

The supportive role of the EU on the sustainability of health systems in EU Member States, which comprises both the elements of fiscal sustainability and healthcare access, has been reinforced since 2006 by the Health Ministers with several Council conclusions ([European Council 2006, 2011, 2013](#)). This led to the definition of a specific EU agenda on health systems in 2014 ([European Commission, 2014](#)), with a focus on (1) strengthening the effectiveness of health systems, (2) increasing the accessibility of healthcare and (3) improving the resilience of health systems.

Sustainability of health systems can be viewed as a strategic action – within a broad and integrated approach – to ensure the overall resilience or long-term sustainability of a health system, especially in times of economic and pandemic crises. A ‘resilient health system is one which is able to effectively prepare for, withstand the stress of, and respond to the public health consequences of disasters’ ([Bayntun, 2012; Kruk, Myers, Varpilah, & Dahn, 2015](#)). In this context, coordinated actions have been agreed at EU level on patient safety and quality of care, integration of care and the creation of an Expert Group on Health Systems Performance Assessment.

Accessibility of healthcare includes several components: availability of the health workforce, cost-effective use of medicines (access to affordable and effective medicines), health technology assessment (HTA) and access to healthcare in any EU Member State (Directive 2011/24/EU, [European Parliament and Council, 2011](#)). Finally, common actions on the use of health informations and e-health have been agreed to foster resilient health systems ([European Commission, 2018c](#)). These coordinated actions are further discussed in the next section.

### *Policy Instruments*

A range of instruments exist that aim to operationalise and deliver on the Health Strategy and the EU objectives on healthcare systems. These instruments include funding, such as the Health Programme (HP), the Structural Investment Funds, the Research and Innovation framework programmes (FPs). Other instruments are of guidance type, such as the European Semester. These instruments are briefly reviewed in the following subsections.

### *Health Programme*

The HP is the main funding instrument since 2002. It supports the Health Strategy, the cooperation among EU Member States and it develops EU health activities. Agreed for a period of seven years, three HPs have been funded so far, with the fourth one about to be launched. To deliver on the priorities or main objectives set in each HP, funds are allocated through project and operating grants, joint actions and conference grants, direct grants to international organisations, and procurements and other actions.

The first HP covered the period 2003–2007, and it allocated €312 million to the achievement of three main objectives: to improve information and knowledge for the development of public health, to enhance the capability of responding rapidly and in a coordinated fashion to threats to health; and to promote health and prevent disease through addressing health determinants across all policies and activities (European Parliament and Council, 2002).

The second HP (2008–2013), set ‘reducing health inequalities’ as one of the main objectives, in addition to the promotion of health, the generation and dissemination of health information, and the improvement of citizens’ health security. The budget allocated to the second HP was €321.5 million (European Parliament and Council, 2007).

The third HP (2014–2020), with a budget of €449.4 million, aims to promote ‘innovative, efficient and sustainable health systems’ and ‘facilitate access to high quality, safe healthcare for EU citizens’. Two other objectives remain the promotion of health – prevent disease and foster healthy lifestyles through ‘health in all policies’ – and the protection of EU citizens from serious cross-border health threats (European Parliament and Council, 2014).

The outlook on the future fourth HP is reviewed in Section 4.

### *Structural Funds*

The European Fund for Strategic Investments provides funding for a number of investment priority areas in the health sector, such as investments in new health solutions, medicines and social infrastructures (European Parliament and Council, 2015). In particular, the health sector receives funding from the European Regional Development Fund (ERDF) and the European Social Fund (ESF).

ERDF supports investment in health infrastructure and equipment, e-health, research and support to small- and medium-sized enterprises, while ESF finances health activities aiming at the promotion of health, such as reducing health inequalities, or supporting the health workforce. ERDF and ESF projects on health amount approximately to €5 billion in 2007–2013 and €9 billion in 2014–2020 (Watson, 2016).

### *Research and Innovation*

Health challenges faced by EU countries are also supported by Research and Innovation Framework Programmes (FPs). Spanning seven years, the first FP (FP1) was adopted in 1983. Eight FP programmes have been funded so far (FP1–FP7, Horizon 2020).

The range of topics covered and the budget allocated to the programme have evolved over time. The proportion of the EU budget dedicated to research was below 2% before FP1 and it is currently 7.5%. The funding allocated to health and biotechnologies has increased from one FP to the next, and it represents the thematic area with overall third highest cumulative budget (more than €20 billion), after ICT (€ 35 billion) and energy (nuclear and non-nuclear, around €30 billion), see [Reillon \(2015\)](#). The Horizon 2020 FP dedicated section on health covers topics on health, demographic change and well-being.

### *European Semester*

A different type of policy instrument is provided by the European Semester. This is a core component of the Economic and Monetary Union; it annually aggregates different processes of control, surveillance and coordination of budgetary, fiscal, economic and social policies. It formulates Country-Specific Recommendations (CSR), which cover anything that might affect the Stability and Growth Pact compliance and macroeconomic imbalances, including the fiscal sustainability of health systems. In the recent years, health has become an increasing important topic among socio-economic policies within the third pillar of the European Semester<sup>4</sup> ([Greer et al., 2019](#)).

The European Semester considers several aspects of healthcare system and provides national recommendations on these aspects. The first aspect is that of fiscal sustainability, in accordance with monitoring compliance with the Stability and Growth Pact. In accordance with the Horizontal Assessment Framework ([European Commission, 2013](#)) it focuses on countries where fiscal sustainability problems may arise in the medium or long-term, discussing areas where relative inefficiencies are likely to be present.

A more qualitative country-specific analysis is performed for those Member States which are in line with the principles discussed in the Joint Report on Healthcare and Long-term care systems ([European Commission, 2016b](#)); the results are published in the annual Country Reports which form the evidence base for subsequent CSRs.

In parallel, an assessment is made on the accessibility and quality of care of each Member State. As is the case for fiscal sustainability, the relevant issues are discussed with the authorities, academic experts and stakeholders. The analysis for those countries which are assessed to have particularly relevant shortcomings in this area is published in the Country Reports.

In association with the European Semester, a new Structural Reform Support Programme and Service has been recently established, with the purpose to provide tailor-made support to EU Member States for reforms in various areas, including healthcare and long-term care systems. In 2020, the Service has become the new Directorate General for Reform of the Commission.

## **EVIDENCE ON SELECTED EU ACTIONS**

This section describes selected EU actions implemented in the past, together with the available evidence on their effectiveness.

### *Fighting Cancer*

One of the main challenges for achieving healthcare systems that are both accessible and fiscally sustainable is posed by cancer-related diseases. Unprecedented demographic and environmental changes throughout the EU will likely and substantially increase the incidence of cancer over the next few decades, probably putting Member States' national systems and their economic and fiscal sustainability to the test.

Cancer is actually the second cause of death in Europe (1.3 million in 2016, about 26% of the total deaths) being responsible of a large burden on EU health and social systems; this has an impact on Member States' budgets, it impairs growth and productivity.

The total societal cost of cancer has been recently estimated to be close to €199 billion in 2018 (Hofmarcher, Lindgren, Wilking, & Jönsson, 2020),<sup>5</sup> €103 billion of which refers to direct healthcare costs (treatment, medications and drugs), €26 billion to informal care while €70 billion accounts for indirect effects such as negative effects on labour market outcomes for EU citizens (including reduction in productivity because of premature deaths and morbidities).

For these reasons, the EU and national governments have been devoting particular attention to the 'fight against cancer' in the last two decades. In particular, actions promoted at EU level to fight cancer have been mainly aimed at (1) providing a framework of cooperation between national cancer bodies, (2) promoting research and developments, (3) circulating best practices on prevention and treatment and (4) regulating the market of cancer-related pharmaceutical substances since 2002 when the EC adopted the first HP.

In addition, the European Semester has also played a role in this context, issuing CSRs for several countries with the recommendation to spend more on prevention and health promotion, which has the potential to reduce the number of people who develop cancer. Moreover, these CSRs suggested to promote the rational use of pharmaceuticals, ensuring effective negotiation of prices, HTA analysis of new medicines and use of generics where and when appropriate.

### *Harmonisation of Cancer Screening*

The European Union has limited leverage regarding cancer treatment in Member States; however, it has a primary role in the implementation and harmonisation of cancer screening programmes and in fostering citizens' responsibility.<sup>6</sup>

It is estimated that at least one third of all cancer cases could be prevented and prevention remains the most effective long-term strategy to reduce cancer-related expenditure for Member States. The Council Recommendation 327/36 of 2003 promoted the implementation of population-based quality-assured screening programmes for breast, cervical and colorectal cancer in all Member States over a four-year period (Council, 2003).

With the European Partnership for Action Against Cancer – introduced in 2009 – the adoption of National Cancer Control Programmes helped in achieving a substantial improvement in the number of cancer screening programmes in the



EU, with more than 500 million screenings performed between 2010 and 2020. As of today, almost all Member States have already adopted such programmes.

In this context, quasi-experimental evidences showed how the implementation of local breast cancer screening programmes increases mammography uptakes by around 24%, while experimental evidence showed how mammography reduces breast cancer mortality in women over age 50 by 25%–30% (Schopper & Wolf, 2009; & Carrieri & Wübker, 2016), extending patients life and reducing subsequent cancer-related healthcare expenditures.

Achieving significant results in the fight against cancer is not only a matter of screening implementation *only*. In fact, a lack in planning experience combined with limited management capacities in Member States may result in low quality screening programmes that use relatively large amounts of resources without significant benefits. This calls for an EU effort towards the harmonisation of cancer screening programmes in Member States along with the publication of dedicated guidelines to ensure the delivery of high-quality screening procedures.

The second HP started a specific Joint Action called ‘European Guide for Quality National Cancer Control Programmes’, providing an outline for policy-makers on the basic principles of cancer control policies. The publication of a dedicated guideline for developing national cancer plans in all Member States was one of the relevant results obtained by this programme.

To this end, a relevant example is the EC Initiative on Breast Cancer<sup>7</sup> coordinated by DG JRC and DG SANTE which develops guidelines for breast cancer screening and diagnosis (European Breast Guidelines) and a quality assurance scheme to promote an efficient use of resources and facilitate implementation in all Member States. In addition, a new EC Initiative on Colorectal Cancer<sup>8</sup> is about to be launched. Colorectal cancer is the second cause of death from cancer in EU with 173,233 associated deaths in 2018 (as reported by the European Cancer Information System). The EC Initiative will develop evidence-based guidelines and a quality assurance scheme for healthcare services involved in the colorectal cancer care pathway.

In addition, activities under a second HP’s Joint Action also led to the development of European Networks in cancer care with the aim of efficiently help patients at regional, national and EU levels. The second HP also made a proposal which led to the development of the new European Cancer Information System.<sup>9</sup>

This information system, developed and maintained by the European Commission’s Joint Research Centre and launched in February 2018, is a comprehensive health and research data infrastructure harmonising information provided by national cancer registries with the aim of obtaining robust information useful to facilitate the description and interpretation of the evolution of cancer in the European Union. It provides and allows to visualise information on cancer burden indicators across European areas, building on a framework for interoperability of all European cancer registries as data providers. It actually collects more than 34 million cancer records provided by approximately 150 European population-based cancer registries from 34 European countries.

Moreover, an EU effort in the direction of fighting cancer is central also in the ongoing third HP,<sup>10</sup> which explicitly aims at preventing chronic diseases