



What can be learned from funding programmes that support the development and testing of new care and payment models?

Workshop summary  
July 2021

## Contacts

### **Marie-Camille Lenormand**

Caisse nationale de l'Assurance Maladie

50, av du Professeur André Lemierre, 75986 Paris Cedex 20, France

E-Mail: [marie-camille.lenormand@assurance-maladie.fr](mailto:marie-camille.lenormand@assurance-maladie.fr)

### **Dimitra Panteli**

European Observatory on Health Systems and Policies

Eurostation, Place Victor Horta 40/30, 1060 Brussels, Belgium

E-Mail: [pantelid@obs.who.int](mailto:pantelid@obs.who.int)

© World Health Organization 2021 (acting as the host organization for, and secretariat of, the European Observatory on Health Systems and Policies). Some rights reserved. This work is available under the CC BY-NC-SA 3.0 IGO license.

## Disclaimer

This document was drafted by Marcel Venema, Nicholas Fahy and Dimitra Panteli based on a workshop series on funding programmes that test new care and payment models and reviewed by workshop participants. The views expressed do not necessarily represent the decisions or the stated policies of the European Observatory on Health Systems and Policies or any of its partners. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the European Observatory on Health Systems and Policies or any of its partners concerning the legal status of any country, territory, city, or area or of its authorities, or concerning the delimitations of its frontiers or boundaries.

# Table of Contents

<b>Organisations involved in arranging the workshops</b> .....	<b>4</b>
<b>Abstract</b> .....	<b>6</b>
<b>Introduction</b> .....	<b>7</b>
<b>Background of innovation in health systems</b> .....	<b>8</b>
<b>Country examples</b> .....	<b>10</b>
France: "article 51" .....	11
Germany: "Innovationsfonds" .....	12
England: "Accelerated Access Collaborative - AAC" & "Academic Health Sciences Network - AHSN" .....	13
United States: "Center for Medicare and Medicaid Innovation (CMMI)" .....	15
<b>Workshop themes</b> .....	<b>17</b>
The importance of investing in organisational innovation .....	18
Bottom-up versus top-down initiatives .....	19
Involving stakeholders .....	21
Selection criteria / requirements .....	23
Evaluating value for money .....	25
Centralised or decentralised support for projects .....	28
The role of IT/data analytics in funding programmes .....	31
Essential skills for the success of projects .....	32
Evaluating projects .....	34
Success versus failure of projects .....	38
Academic rigor versus timely results .....	39
Expand or scale projects to other regions and issues of equity .....	43
<b>Conclusion</b> .....	<b>46</b>
<b>References</b> .....	<b>48</b>
<b>Annex 1: Setting the context for innovation</b> .....	<b>56</b>
What is innovation? .....	57
How is innovation supported? .....	58
The challenge of organisational innovation .....	59

## Organisations involved in arranging the workshops

### **The European Observatory on Health Systems and Policies (OBS)**

The Observatory<sup>1</sup> is a partnership, hosted by WHO/Europe, which includes other international organizations (the European Commission, the World Bank); national and regional governments (Austria, Belgium, Finland, Ireland, Norway, Slovenia, Spain, Sweden, Switzerland, the United Kingdom and the Veneto Region of Italy); other health system organizations (the French National Union of Health Insurance Funds (UNCAM), the Health Foundation); and academia (the London School of Economics and Political Science (LSE) and the London School of Hygiene & Tropical Medicine (LSHTM)). The European Observatory on Health Systems and Policies supports and promotes evidence-based health policymaking through comprehensive and rigorous analysis of the dynamics of health-care systems in Europe. It engages directly with policymakers and experts, and works in partnership with research centres, governments, and international organizations to analyse health systems and policy trends.

### **Cnam – The national agency of the Statutory Health Insurance of France**

The national statutory Health Insurance (Cnam) of France<sup>2</sup> placed under the authority of both the Ministry of Health and the Ministry of Economy and Finance, was historically, managed by a board of employers' and employees' representatives to cover salaried workers. The population covered has since been expanded progressively until it reached universal coverage. It is funded as much from social contributions from workers as from public taxes and its responsibilities can be listed as:

---

<sup>1</sup> See <https://eurohealthobservatory.who.int/>

<sup>2</sup> See <https://www.ameli.fr/>

- Negotiating collective agreements regarding fees and work conditions for each health care profession in ambulatory care.
- Pricing and reimbursement for ambulatory care services and procedures.
- Introducing new payment methods for ambulatory care professionals, especially to promote quality and coordinated/integrated care.
- Regulating health care spending.

## Ministry of Health (MoH) of France

The Ministry of Solidarity and Health<sup>3</sup> of France organises prevention and care, research, and innovation in the field of health. Its missions cover the areas of family, pensions, children, the elderly, disability, autonomy, and the fight against exclusion.

The main competences of the Ministry of Solidarity and Health are:

- The implementation of rules relating to the schemes and management of social security bodies and complementary bodies (old-age insurance, family benefits and sickness and maternity insurance, accidents at work and occupational diseases).
- The preparation of the Social Security Financing Act (PLFSS) and the monitoring of its implementation in conjunction with the Minister of Action and Public Accounts.
- The development of anti-poverty programs through the interministerial committees for combating exclusion and the National Council for Policies to Combat Poverty and Social Exclusion.
- The implementation of the social and solidarity economy development policy in conjunction with the Minister of Ecological and Solidarity Transition.

---

<sup>3</sup> See <https://solidarites-sante.gouv.fr/>

## Abstract

Different health systems have different strategies in relation to funding innovation in health. Finding new care and payment methods that improve patient care and contribute to health care sustainability is a perpetual quest in health systems to sustain high-quality and affordable health care to the public. One way to foster this type of innovation is through dedicated funding programmes. The aim of this workshop series was to share experiences and to explore possible lessons from four participating countries (France, Germany, United Kingdom, United States), specifically on the development and implementation of new care and payment methods. In three virtual workshops the following questions were discussed:

- ‘What are the priorities and how do we engage stakeholders?’
- ‘What does it take to make the fund work?’
- ‘How do we know it works?’

Each of the funding programmes in this workshop series was set up differently, each within a different healthcare system, either by their approach to collecting innovative ideas, their selection criteria for accepting projects, the amount of support they provided, their access to IT systems, etc. Yet, it appears from the discussions that the challenges of developing, testing, and implementing organisational innovations such as new care and payment methods are similar across systems. For instance, finding the right balance between what is feasible through evaluation versus designing a project with minimal bias, or the determining the right confidence level for measuring results. Also important is the ability for projects to adapt to the local context and for funding programmes to consider aspects of equity (e.g. socioeconomically disadvantaged areas and population groups). This shows the value of cross-country evaluation and learning of these funding programmes and of organisational innovation overall.

## Introduction

Finding new care and payment methods that improve patient care and contribute to health care sustainability is a perpetual quest in health systems. One way to foster this type of innovation is through dedicated funding programmes. In January 2021, a workshop series was organised to enable an exchange of experiences with such funding programmes from different countries and facilitate cross-country learning. Such knowledge transfer can be particularly valuable for newer initiatives, such as the one introduced by Article 51 in France in 2018. This report summarizes the results of this exchange with the purpose of highlighting key insights and serving as inspiration for further development of funding programmes or for finding new opportunities.

As pressures on health systems have mounted, there has been increasing interest in how different methods of delivering or paying for healthcare can help in achieving overall health system goals. Some countries have set up specific ‘Innovation funds’ to support the testing of new care and payment models (e.g., Germany) (Amelung VE 2017). In 2018, France adopted the new law ‘Art 51 of social security financing act’<sup>4</sup>, which creates an experimental framework for the testing of new care models and alternative payment mechanisms to enhance collaborative and coordinated care and improve patient outcomes (Ministry of Solidarity and Health 2020). The French “innovation fund” is young and facing many challenges: determining priorities for innovation; clarifying the value/place of technological innovation when embarked in organisational models; finding the right balance between top-down and bottom-up initiatives; defining a general framework for implementing models; supporting participants through change management in the implementation phase; defining an evaluation strategy and standards; how to modify, expand or terminate pilots.

Different health systems have different strategies in relation to funding innovation in health. The aim of this workshop series was to share experiences, to explore possible lessons

---

<sup>4</sup> See <https://www.iledefrance.ars.sante.fr/article-51-un-dispositif-pour-linnovation-en-sante>.

from four participating countries, and specifically to consider the development and implementation of new care and payment methods.

The following chapters will provide a) relevant background information on this type of innovation, followed by b) information and context of the specific funding programmes involved in this workshop series. Building on this foundation, the chapter ‘Workshop themes’, brings together the main input and discussion points raised by participants, summarised thematically and accompanied by recommendations, where appropriate. Overall conclusions are presented in a final chapter.

## Background of innovation in health systems

Innovation is central to health systems and policy, with the intention that innovation drives improvement and change in health systems, although this brings both opportunities and challenges. Many countries have established specific mechanisms to encourage innovation in health, including innovation funds, specific programmes, and strategies. See Annex 1 to read about the context for innovation and this workshop series.

An innovation can be defined as an idea, a practice, or a technology that is perceived as new (Rogers, 2003). Organisational innovation is focused on how organisations and systems work, such as integration of processes of care across different providers or new payment mechanisms. Unlike biomedical or technological innovation, organisational innovation is influenced by the characteristics of health systems (existing health care delivery models, existing payments methods, dedicated human and financial resources). Even if health systems’ characteristics are different in each country, it seems that there is a common trend for certain organisational models: integrated care, accountable care organisations, enhanced primary care, bundled payments, episode-based payments; shared-savings, patient-centred care, populational approaches, etc.

Organisational innovation presents specific challenges for health systems and policy. Organisational decisions such as how organisations are structured, regulation and quality



requirements, costing and payment mechanisms, and monitoring and accountability structures clearly will shape how organisations work both internally and with each other. However, unlike biomedical and technological innovations, these organisational and system decisions are context specific (Plsek & Greenhalgh, 2001). The challenge lies rather on how to reconcile the needs of organisations at the local level and innovation trends at the national level. Organisational innovation success or failure seems to rely more on the capacity to overcome local specificities (rural/urban territories; high/low employment rates; young or older population; risk factors; morbidity, professional background, and practices, etc).

The challenges of organisational innovation and implementation have led to a specific research field, that of implementation science, which has identified a wide range of challenges to successfully implementing organisational change, with yet no clear or universal solutions (Greenhalgh et al., 2005). Learning from organisational innovations in other countries or settings is thus especially challenging, as it also requires understanding the specific context where they have been implemented, and what that suggests for learning from them.

## Country examples

To explore these issues further a three-day workshop, facilitated by the European Observatory on Health Systems and Policies, was organised between members of four national innovation funding programmes: the French innovation funding programme (Article 51), the German Innovation Fund (Innovationsfonds), the English Academic Health Science Networks (AHSNs) and the Center for Medicare and Medicaid Innovation (CMMI) of the United States. Table 1 provides an overview of some of the characteristics of each of the funding programmes.

**Table 1:** overview of the characteristics of the Funding programmes involved in this workshop series.

Country:	France	Germany	England	United States
Funding programme:	Article 51	Innovationsfonds	AHSNs	CMMI
Launch	2018	2016	2013	2010
Budget:	€35 million for 2020 and €100 million for 2021	€300 million annually (2016-2019); €200 million annually (2020-2024)	£60 million annually	\$10 billion every 10-year-period.
Funding sources:	The health system innovation fund (FISS); regional intervention fund (FIR)	Health insurance & Healthcare fund (public)	Funding from NHS England, NHS Improvement, and the Office for Life Sciences	Publicly funded through tax
Governance:	French Ministry of Health; Statutory Health Insurance (Cnam); Regional health authorities (ARS); Strategic committee (pool of experts)	Scientific committee (experts) & Selection Committee (representatives of health insurance, physicians, hospitals, ministries)	Licensed by NHS England and governed by the board of each of the individual 15 AHSN.	Federal government (Medicare and Medicaid)
Stakeholders:	Health & social care facilities, hospitals, public authorities, industry, private	Social partners	NHS providers and commissioners, academia, social care, third sector and industry	health care providers, States, Universities

<b>Type of innovation</b>	New delivery and payment models	New forms of care + research (HSR)	Drugs, devices, digital, diagnostics, design (Clinical pathways)	Payment and service delivery models
<b>Technical innovation</b>		Can be included in new forms of care	Yes	Only in broader organization models
<b>Project selection:</b>	National selection Committee	Selection committee: 25% (new forms of care), 35% (HSR).	50% national programmes (funders and AHSN Network, 50% local AHSN teams	

## France: "article 51"

The “art 51” of the 2018 social security financing act created an experimental framework to test a programme for healthcare delivery and payment innovation<sup>5</sup>. Its aim is to fund projects that promote coordination, group practices and integration of care through adequate payment mechanisms.

Projects emerge from the field, identifying unmet needs and proposing innovative ideas in health care organisations and payment schemes. There is no restrictive list of topics and projects may concern any disease area or target any population (e.g., elderly, disabled, children, women). They can be within telehealth or integrate the health and social care (nursing home, rehabilitation). Transferability is one of four selection criteria to safeguard that the models tested can be scaled up to national level.

Biomedical or technical innovation (e.g., medicines, medical device, or e-Health) cannot be financed by the funding programme if there is no element of organisational innovation, they must be part of a broader innovation (e.g., health care pathway, health care organisation, new health care roles).

So far, 71 projects have been selected by the committee, representing €380 M of which the first projects started testing in 2020.

<sup>5</sup> See <https://www.iledefrance.ars.sante.fr/article-51-un-dispositif-pour-linnovation-en-sante>

## Germany: "Innovationsfonds"

The Innovationsfonds was launched by the German Federal Government in 2015 and has been operational since 2016. Its budget was from 2016 till 2019 €300 M per year, and it finances both experiments in new care models (€225m in 2019) and health services research projects (about €75m).

The innovation funds publishes an ‘open-topics’ call as well as a “closed topic” call for interest. In the case of “open-topic” calls projects must emerge from the field, identifying unmet needs and possibilities to strengthen health care organisation. In the open-topic call there is no restrictive list of topics: projects may concern drug therapy, telehealth, target the elderly population, integrate health and social care (pension, rehabilitation), or focus on skill-mix. Implementation potential is thus one of the criteria, so that experiments test models that could then be scaled up at the national level. In the case of “closed-topic call” the list of topics is mostly set by the institutional stakeholders of the German Healthcare System (Federal Ministry of Health (BMG), Central Federal Association of Health Insurance Funds (GKV), National Association of Statutory Health Insurance Physicians (KBV), German Hospital Federation (DKG)).

The development of medicines, medical devices or e-Health technologies cannot be financed. They must be part of a broader care innovation structure or process (e.g., health care pathway, health care organisation, new health care roles). A first cycle of projects is coming to an end after 4 years (2016-2020): 400 projects are currently running and €1.2 billion has been spent in total. This will be the time to reflect on the past and future projects, on the dissemination of innovation and how to transfer innovation into standard care. The second cycle is running now from 2020 till 2024 with a budget of €200 m per year.

## England: "Accelerated Access Collaborative - AAC" & "Academic Health Sciences Network - AHSN"

In England, the NHS is a complex setting for innovation and change. There have been extensive reforms of the English NHS in recent decades, which overall have changed its nature from being essentially a single very large organisation to a system containing many differentiated organisations (Walshe & Davies, 2013), structured around a separation between payers and providers creating an 'internal market' and in practice a complex web of overlapping roles and relationships within and beyond the NHS.

The NHS in England is overseen by NHS England (a quasi-autonomous government agency), under the overall direction of the Department of Health and Social Care (Cylus et al., 2015); this now incorporates the previously separate organisation NHS Improvement. Purchasing of care is primarily carried out by clinical commissioning groups (CCGs); local groups led by general practitioners who are allocated budgets based on the size and need profile of the population in the area that they cover, and who then purchase the care that they consider appropriate and value for money within that budget. The purchased care is typically provided by NHS hospital or community trusts, though may also be provided by organisations outside the NHS. Some specialised services are purchased at national level directly by NHS England.

At national level, the National Institute for Health and Care Excellence (NICE) evaluates health innovations for their cost-effectiveness and provides materials to support the uptake of evidence-based care in practice<sup>6</sup>.

The approach to innovation and implementation within the NHS reflects this. Rather than a single innovation fund or agency, the NHS takes a mixed and largely decentralised approach promoting collaboration and integration of innovation within general NHS activities. NHS England sets the overall direction of improvements desired, but their

---

<sup>6</sup> See <https://www.nice.org.uk/about/what-we-do/into-practice/adoption-team> for a list of medical technologies evaluated by NICE and prioritised for adoption support.

implementation is pursued by a range of networks focusing on different aspects of innovation and change, from local research and implementation collaborations and broader regional collaborations to some national initiatives. These are part of an overall ambition of accelerating the development and uptake of innovations for improvement of effectiveness and efficiency of health services within the NHS (Department of Health, 2011). While in principle open to all types of innovation, in practice these efforts are concentrated on medicines and medical technology, rather than organisation and integration of care. The National Institute for Health Research (NIHR), also a quasi-autonomous agency of the Department of Health and Social Care, mainly funds biomedical and technological innovation, but as described above, it does also fund research related to the organisation and delivery of health services.

The most relevant part of the innovation efforts within the NHS for this workshop series are the Academic Health Science Networks (AHSNs), which were established in 2013 to help promote the identification and uptake of innovations within the English NHS (The AHSN Network, 2019)<sup>7</sup>. They are partnership-based organisations, bringing together the health service, researchers, private sector industry and other partners, and acting as a platform for collaboration. This reflects an innovation system approach, with AHSNs taking the role of a hybrid institution linking these different groups of stakeholders (Edquist, 2009). While they do have some funding (around £60m per year), overwhelmingly the innovation-related funding in the NHS is for the generation of initial innovations, rather than supporting efforts for their adoption within the system (Collins, 2018).

Indeed, a major part of the challenge of achieving adoption in the NHS is finding funds to support the work needed for adoption. Lacking a central innovation fund, this typically means persuading local payers that the value of the innovation is sufficient for them to fund it but might also involve funds from other sectors (e.g., local government), or finding other sources of funding from the private sector (Begley et al., 2018). The NHS had introduced a

---

<sup>7</sup> See <https://www.ahsnnetwork.com/>

specific reimbursement mechanism, the Innovation and Technology Payment (ITP) to provide central reimbursement for a small number (four in 2019/20) of innovations selected at national level but has replaced it by the MedTech Funding Mandate which requires commissioners and providers to deliver these technologies without reimbursing the cost (*NHS Accelerated Access Collaborative » Innovation and Technology Payment, 2020*). The adoption and spread of innovations from the MedTech Funding Mandate are supported by the AHSNs.

There have also been a wide range of policy initiatives at national level to ‘pilot’ innovations in organisation of care, such as the Whole System Demonstrator programme testing the value of telehealth and telecare. However, while the word ‘pilot’ might be taken to mean testing of an uncertain idea, in practice such policy-mandated ‘pilots’ were more akin to demonstrations (Ettelt et al., 2014). As Ettelt and colleagues describe, policy-mandated pilots typically had multiple objectives, and even when they began as tests in the more research-oriented meaning of the term pilot, the policy context rapidly pushed them towards effectively also becoming demonstrations of initiatives presumed to work.

## United States: “Center for Medicare and Medicaid Innovation (CMMI)”

The United States is the global leader when it comes to health innovation, reflecting the very high levels of overall health expenditure as well as promotion of health innovation as such (Philipson, 2005). These high costs of healthcare (including its support for innovation) cause social problems and inequalities in access within the United States, which have become more acute over time (Emanuel et al., 2017) and led to increasing attention to cost control and value for money.

To resolve underlying problems in how health care is delivered and paid for in the United States, the ‘Patient Protection and Affordable Care Act (PPACA)’ came into force in November 2010. This established a new department called the Center for Medicare and Medicaid Innovation (CMMI) or CMS Innovation Center, with a dedicated \$10 billion for the

years 2011-2019 and another 10 billion USD in 2020<sup>8</sup>. The CMS Innovation Center has three main priorities: the testing of new payment and service delivery models, the evaluation of results and advancing best practices, and engaging with a broad range of stakeholders to develop additional models for testing. They have tested a variety of alternative payment models that create new incentives for clinicians to deliver better healthcare at a lower cost and despite falling short of its 2018 target, the CMS continues to make good progress by increasing the percentage of Fee For Service (FFS) Medicare payments tied to alternative payment models to 41% (Department of Health and Human Services, 2020).

The different tasks of the CMS Innovation Center cover coordinating the development and implementation of models (e.g., developing model designs, reviewing ideas, obtaining approval from CMS and HHS, soliciting, and selecting participants), overseeing the evaluations of models, providing feedback to model participants about their performance, disseminating lessons learned across models, and monitoring budget resources. Based on the assessments of the Office of the Actuary, two models have been certified for expansion and steps have been taken to expand them. These models are the 'Pioneer Accountable Care Organisations (ACO's)' and the YMCA of the USA Diabetes Prevention Program.

The CMS Innovation Center uses a combination of staff and contractors to test models, but before an individual model is tested; the CMS Innovation Center takes many factors into consideration to be included in the model design. The individual models tested by the CMS Innovation Center typically range between three to five years and cost between 8.4 million USD and 967 million USD (Government Accountability Office (GAO), 2018).

---

<sup>8</sup> See <https://innovation.cms.gov/>



## Workshop themes

The workshop series was spread over three individual days using the internet-based communication tool 'Zoom'. Each day covered a specific question as a focal point for the discussion.

Day one started with a broad introduction to the different funding programmes, followed by a specific focus on the question '**What are the priorities and how do we engage stakeholders?**'. When it comes to innovation, it is important to reflect whether the approach taken will cover the right themes and trends and reach the right stakeholders to live up to the innovation potential. Participants discussed the advantages and disadvantages of taking different approaches.

Day two centred around the question '**What does it take to make the fund work?**'. In this session the organisational structures of the different funding programmes were explained. Participants discussed about the different functions (e.g., actuary/financial engineering, accounting department, IT system, payment system, legal advice, stakeholder engagement) needed for the functionality and sustainability of the fund, as well as the amount of resources needed when it comes to supporting projects on organisational innovation.

Day three concluded the workshop series with the question '**How do we know it works?**'. This session was all about ways to evaluate complex interventions and determine their success and potential for scaling up. In addition, participants also thought about how the evaluation reflects wider values of the health system such as equity and equality.

The following pages in this section present some of the themes that emerged from this workshop series.

## The importance of investing in organisational innovation

It became clear throughout the discussions that there is considerable need for these type of funding programmes and for investing in organisational innovation in general. This was well reflected in the growing support of the funding programmes involved in this workshop series, as all of them have been extended beyond their initial cycle.

In the CMMI, the widespread participation in the models is proof of the interest in finding new care and payment methods, but also of healthcare providers willingness to take on more financial risk and to change their current healthcare system, including the way healthcare is delivered in the US. In the European perspective it was argued that change management should be funded by funding programmes like those involved and not left to the responsibility of hospitals. Process and structural innovation are, after all, imbedded within organisations, and hospitals do not have the budget or capacity to take on the risks of changing processes and systems while at the same time ensuring that patients continue to receive the best possible care. For innovation projects to thrive, a favourable environment needs to be created by for example changing the processes and structures in place or the way organisations work and interact, one participant said that:

*“We need to innovate permanently and use one or two percent of the annual budget on research and development, similar to the industry.”*

Even though there are differences between the countries regarding their healthcare systems, discussions do indicate that the issues and challenges (developing, testing, and implementing) relating to organisational innovation are somewhat similar across different systems, as was illustrated by one participant saying:

*“I think that recognising differences in local needs is often overstated and that some of the biggest issues are common*

*across whole of the UK and western Europe and there are similar needs across the countries.”*

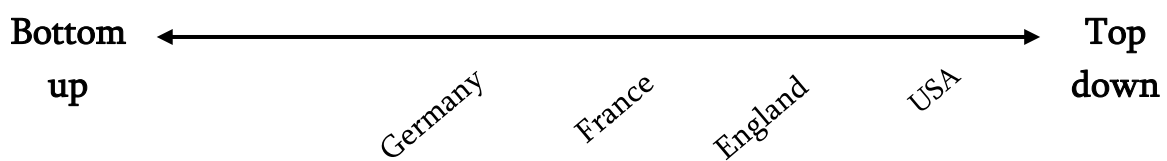
In response, the need for cross country evaluation and learning was highlighted by the participants and more should be done outside of the academic community and international organisations like the OECD and the European Observatory on Health Systems and Policies. To some extent this reflects that funding programmes that invest in the development of organisational innovation are relatively 'young' and that structures for meeting and exchanging experiences do not really exist yet. One reason for this could be the misconception that organisational innovation is perceived as entirely system specific and therefore country specific. While individuals who work with different healthcare systems recognise opportunities fit for different systems as was said by one participant:

*“Often individuals working in companies across Europe and other health care systems see variation in approaches and models of care that could be adopted across countries.”*

## Bottom-up versus top-down initiatives

In the workshop series there was a common challenge on how to balance the advantages and disadvantages of taking a bottom-up or top-down approach towards collecting innovative ideas. In the context of funding programmes, a top-down approach can be described as setting specific pre-set priorities and requirements towards selecting projects, whereas a bottom-up approach allows for flexibility when it comes to the type of projects funded. The benefit of a bottom-up approach may be a higher chance for innovative ideas, whereas the benefit of a top-down approach may be to utilise resources more efficiently and to align funding with policy priorities.

Each of the funding programmes took a slightly different direction towards this. The German Innovationsfonds is for example both bottom-up and top-down. As a bottom-up approach, they have a category named “open topic” under which projects can be proposed on any area. The sheer number of applications for their funding cycle, rating five times higher than the threshold of projects that can be funded, was a strong signal that there is no shortage of potentially innovative ideas.



The CMMI takes a top-down approach by designing care and payment models in-house. They have a dedicated team assigned, bringing together expertise and knowledge to develop models under the prioritised health areas. However, at the same time they are open for ideas coming from outside and urge their stakeholders to share ideas with them, as it helps them towards developing a potential new care or payment method. So far suggestions have come from the political leadership, the team itself, from best practices, physician communities, researchers etc.

England has a mixture of bottom-up and top-down approaches towards organisational innovation with multiple organisations like the AHSNs, the National Innovation Collaborative, or the Innovation Hubs (The Health Foundation)<sup>9</sup>. With this approach: it supports innovative ideas coming from different regions in the country, it reflects on priorities set at national level, as well as respond to priorities identified by local stakeholder organisations. Similarly, the approach of the Article 51 programme combines some national priorities and initiatives with many bottom-up proposals.

---

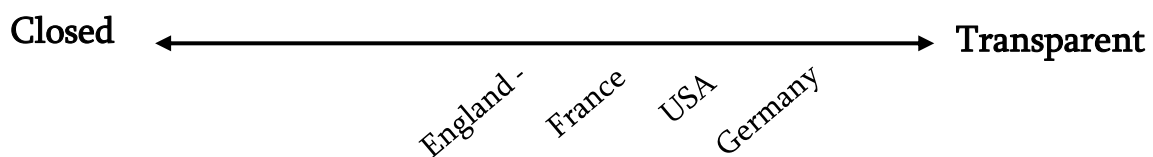
<sup>9</sup> See <https://www.health.org.uk/news-and-comment/news/four-innovation-hubs-to-be-established-as-part-of-the-health>

Regardless of these different approaches towards organisational innovation, the issue was not about choosing one or the other, and a joint conclusion could be found by defining bottom-up and top-down as a dynamic process.

*“This year’s bottom-up is next years’ top-down.”*

## Involving stakeholders

Participants emphasised the value of involving stakeholders at different levels within their funding programme.



In the Innovationsfonds, the perspectives of multiple stakeholders are considered when it comes towards steering the funding programme. Through an innovation committee, decisions are made between representatives of different fields such as hospitals, nurses, patient organisations, industry, and health insurance companies. They are supported by an expert group and all work together towards finding the best innovative solutions towards challenges in the healthcare system. This type of governing structure in which the funding programme is not managed on a macro level (government) but on a meso level (corporatist players), is only possible due to the self-governing system in Germany but makes the Innovationsfonds a relatively collaborative and transparent funding programme.

The CMMI, with a different governance approach than Germany, has transparency also high on the agenda. Transparency about the models currently in development is important to allow for further ideas and suggestions from stakeholders. In addition, it was mentioned

that the CMMI is very engaging with the community and makes sure that all their stakeholders are heard. One participant for example said that:

*“There are instances that people come to us with an idea, and we are just not ready for it. We go back to them 2 years later and ask them if they are still interested, because at that moment we have more capacity or learned lessons from other models, it becomes a different priority.”*

This also means seeing the value of inputs on non-prioritised topics as priorities may shift due to circumstances, take for example the COVID-19 pandemic. It is foremost important for a funding programme to be adaptable.

In the CMMI, stakeholders are also involved when it comes to designing a particular model. Perspectives from clinicians, economists and government officials are considered to develop a model towards its true potential. Then, it was mentioned that the CMMI collaborates extensively with private stakeholders. There is a programme called “the healthcare payment learning and action network”<sup>10</sup> designed to create partnerships with private entities. Reflecting the nature of the US healthcare system, such public/private partnership are used to create awareness of valuable care and payment models beyond the Medicare and Medicaid and to initiate change more broadly.

In England many actors are involved in the innovation landscape and for the AHSNs to operate efficiently, they rely heavily on their relations with regional stakeholders. To accelerate the deployment of innovative technologies they bring together people from the NHS, social care sector and local authorities so that people can seek advice and share

---

<sup>10</sup> See [www.hcp-lan.org](http://www.hcp-lan.org)

learning and best practice in transformation. When AHSNs are charged with rolling out a particular innovation, they usually identify representatives for the professionals and for the patients to ensure that innovative technologies can be adopted effectively. Realising a common challenge is helpful and was illustrated with the example of implementing the COVID Oximetry<sup>11</sup>. Due to bringing stakeholders together more effectively it was possible to implement this technological innovation throughout England within six weeks. One participant from England even said that:

*“The accelerated spread of existing solutions and reactive work has led to enhanced relationships with local system partners. It was reported that health services felt listened to and were ‘worked with’, rather than ‘done to’, during the pandemic.”*

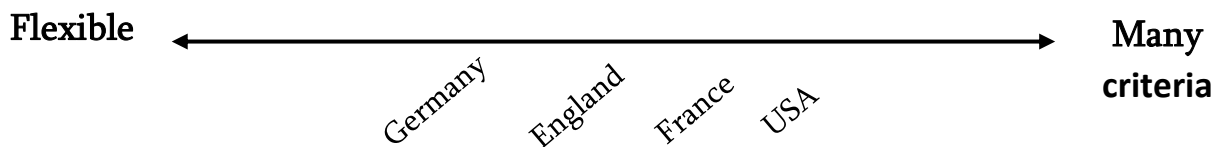
In France, the funding programme is a unique collaboration between members of the Health Ministry and the National Health Insurance fund. This expresses the importance of working together when it comes to projects in the field of organisational innovation and this collaborative way of working was emphasised by members from both sides. In addition, they urge stakeholders to work together when it comes to designing or managing their projects.

## Selection criteria / requirements

Different selection criteria and requirements were mentioned between the funding programmes when it comes to choosing projects or models.

---

<sup>11</sup> See <https://www.ahsnnetwork.com/covid-oximetry#:~:text=COVID%20Oximetry%20%40home%20uses%20pulse,require%20hospital%20review%20and%20admission.>



The funding programme of Article 51 can be considered to have the most explicit criteria for selecting projects. Projects need to, besides improving access, quality, or cost effectiveness of care, also improve a: patient/population-level expected outcome, change legislation, change the process, structure or organisation of care, and include an economic or payment mechanism. When it comes to bottom-up initiatives, projects are selected first by the regional health authorities (ARS) in case of a regional initiative or by the National committee in case the initiative involves several regions. Then, a final selection of the pre-selected projects will be made by the National committee, on aspects of feasibility, effectiveness, efficiency, and transferability.

In the Innovationsfonds, ideas can openly compete, and projects are selected by using criteria on methodology, content, feasibility, practicability, and evaluability. The innovation committee consisting of nine representatives ranging from health insurance, physicians, hospitals, ministries plus a neutral chairman decide which projects are successful.

The AHSNs have many criteria when it comes to top-down projects. For projects from the national Accelerated Access Collaborative (AAC)<sup>12</sup> four criteria need to be fulfilled before they can get funded. Firstly, the project must have proven its effect, demonstrated through one of the following: a positive NICE Medical Technologies Guidance (MTGs), NICE Diagnostic Guidance (DGs) or NICE Digital Guidance (DiGs) (when available). Secondly, the project must deliver material savings to the NHS with a minimum target of £1 million over five years for the population of England. Thirdly, the project must also demonstrate

<sup>12</sup> <https://www.england.nhs.uk/aac/>



through, NICE modelling, a net saving within the first 12 months of implementing the innovation. Lastly, the project must be affordable to the NHS, meaning that the budget impact of the project does not exceed £20 million in the first three years. For other AHSN Network national programmes potential projects are assessed against a series of broad criteria such as a priority area of unmet need<sup>13</sup>, the strength of evidence on the value of the innovation, the ease of implementation, etc. For local projects individual AHSNs use their own criteria.

The CMMI has due to their own mandate on developing the models, somewhat less criteria for selection. Their choice is based on assessing ideas that have potentially the highest return on investment and to the extent they can be scaled up to the whole population within Medicare and Medicaid. They categorise a return on investment as one of the following: can the model increase savings, can it increase quality with the same budget, or can it do both?

## Evaluating value for money

The participants in the workshop series agreed that value for money and spending the money wisely, is the goal in setting the priorities for testing new care and payment methods.



In the CMMI, value and value-based purchasing is at the centre of CMMI's strategy. It was mentioned that they spend a good amount of time to engage stakeholders, address

<sup>13</sup> <https://www.england.nhs.uk/publication/2021-22-priorities-and-operational-planning-guidance/>

resistance, and align incentives with the goal to move away from Fee For Service and inefficient care.

In the European dimension, value-based spending has been approached more cautiously due to having already in place (for a longer time) social insurance, capitation-based payment systems, etc. Considering the expenditure of the American healthcare system, the measures of reducing costs or improving quality may not have the same effects or goals when talking about value and value-based spending in the European healthcare systems.

The term value can after all mean different things depending on the context or the stakeholders. If we zoom in from a national level to the testing of a specific new care and payment method, it is of paramount importance to keep in mind the perspectives of end users (e.g., patients and healthcare professionals). The AHSNs for example work in partnership with the National Institute for Health Research (NIHR) and have put emphasises on meaningful communication with end users (patients and healthcare professionals). They also started to look more clearly to innovation needs, not from the perspective of researchers, but also from the perspective of NHS senior manager clinicians through for example a national survey<sup>14</sup>.

When it comes to spending money wisely, the potential of a funding programme in terms of improving access of care, quality of care or reducing costs, is also dependent on the criteria set by the funding programme for accepting individual projects. One of the criteria that stood out, was the time span that projects have to fulfil the previously mentioned criteria. The duration that projects can have in the funding programme of Article 51 or in the CMMI is on average five years, while in England the projects accepted by the AHSNs can last one or three years. This puts a restriction on the AHSNs in selecting projects and they would need to decline projects with a longer time span. Whilst they may have great

---

<sup>14</sup> <https://www.ahsnnetwork.com/nhs-research-innovation-priorities>

potential in saving costs, improving quality or access of care in the long run. This could be a consequence of the shorter framework for financial decision making and business capital of the NHS. However, it was mentioned that national commissioners have become more flexible with this rule and recently started accepting projects with a potential positive financial saving to the NHS over a three-year time scale. In addition, it should be mentioned that the AHSNs work, in comparison to the other funding programmes in this workshop series, on the more implementation side of projects that already have a substantial evidence base.

Estimating the potential of a new care and payment method to save costs or increase quality of care and the duration needed to get well representative results is important as was stated by the CMMI. They shared from their experiences, that three years to test a new care and payment method was a bit too short for getting the results needed for decision-making. To this extent, one participant said that:

*“We initially thought that we could test in three years and have results to make determinations, but ultimately found that it takes a while for us and our participants to become acclimated to the model design and the work, and for us to get the information and results from the models”.*

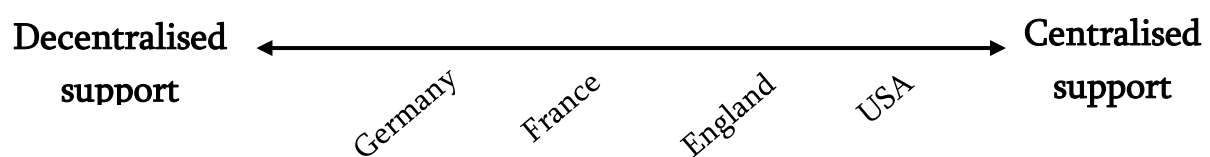
In addition, unforeseen events such as the COVID-19 can have an impact on the time needed for new ideas to be developed, implemented, and evaluated. On another note, the evaluation of projects and their potential effects, can be limited if solely focussed on the healthcare system. Taking as example the relative tight integrated system of the NHS, there have been large-scale shifts in the provision of care during the COVID-19 pandemic between the NHS and the social care system, from inpatient secondary care to remote or

outpatient care and primary care. This has opened discussions on how to ensure that the projects funded are not only evaluated by their effects and potential within the healthcare system, but also taking into consideration the effects and potential of projects within other areas such as social care and prevention. Based on this, one participant proposed to reassess public finances:

*“NHS financial performance is judged whether it manages to live within its budget so all the places that deliver good value for money such as social care, early prevention don’t currently get funded, so I advocate for a shift and an increasing role for value for money assessment of public finances.”*

## Centralised or decentralised support for projects

Selecting a project is one thing, implementing it into practise is another. Considering the nature and challenges of organisational innovation, members from the funding programmes reflected on how much support and resources are required when it comes to successfully implementing these projects. Would it be enough to provide financial support only or is it better to centralise specific areas of expertise such as in the development and implementation of projects? In view of the different characteristics of each of the funding programmes involved in this workshop series and the strategy they take; this naturally leads to different levels of support.



The Innovationsfonds could be considered to have the most traditional meaning of a funding programme and only provides limited support outside of the initial funding. Feasibility is one of the criteria that the innovation committee checks when selecting projects and it is up to the project team to consider any hurdles within the development, implementation, and evaluation of the project. On one hand this limits the burden on the funding programme in terms of for example human resources and IT, on the other hand a centralised support might be more efficient when there are similar challenges or gaps of expertise across projects.

The CMMI, are more closely engaged with the models they implement for testing, which is reasonable after being intensively involved in developing the new care or payment model. The CMMI has four units that coordinate model development and implementation and four units that support model development and implementation. One of the units, the Learning and Diffusion Group, use the results of evaluations to identify areas where participants need additional support or knowledge through for example webinars and implementation guides.

The AHSNs provide support centrally which follows from their main role as incubator of innovation projects. They work closely with project managers and provide them with project management support. This could for example be through tools on using the specific innovation or case studies and examples that may help with understanding the specific context for implementation. One tool that was mentioned is the “capacity and knowledge development programme”, which was created to provide certified courses to health professionals with the aim to teach them about integrating change within organisations (e.g., who is responsible for innovation, how to get involved, the planning procedures, collaboration actions). The availability of different tools depends on the individual AHSN and the need of certain skills or knowledge in the region it covers. Though all the AHSNs have, through experience, increased its effectiveness in providing support and bringing people together

(e.g., community of practice, regional medical, local primary care, and secondary care teams).

The Article 51 programme, having a the two-track approach towards developing new care and payment models, a certain level of centralised support is needed. Especially, with the development of top-down initiatives (e.g., Integrated care for older people (ICOPE), community health centers), but also in the case of bottom-up initiatives they realised that applicants are not familiar with all aspects of developing the idea further towards a new care or payment model that is ready for testing. It was for example said that:

*“Doctors and nurses, most of them are not specialists in project management or change management. We found out very soon that we had to support and follow up and most importantly help them build up capacity to implement and design the project and that led us to have new ways of working.”*

A new way of working, one that is more on a collaborative level, to help the participants with the development and implementation of their ideas. To do this, they must fully understand what they are aiming to do before they can assist with improving the model. This starts with the right mind set as was illustrated by one participant.

*“Team spirit and the acknowledgment to support innovation, is in itself an innovation process.”*

An area that is often requested for support, is the economic model behind the idea (e.g., statistical economic modelling and finetune engineering).

## The role of IT/data analytics in funding programmes

Both for evaluating projects and for their own effective performance, data is key. Some of the funding programmes can draw on very large data sets, such as billing and claims data in the US or in France. For all the funding programmes the platforms and databases available depend on the data infrastructure of the wider health system to collect clinical and administrative data as well as their own systems. However, linking financial or administrative data with clinical and outcome data is frequently a challenge, even when appropriate data is in principle available (which is far from being generally the case).

The CMMI has greater scope to develop IT systems than the other funding programmes, given their relative level of resources. But even there, they rely heavily on IT structures that are in place by the overall organisation of the CMS. The cloud infrastructure is being used more and more to collect claim and clinical data. Sometimes richer data can be obtained via investments in commercial products or through the intermediary of experienced researchers, but the CMMI prefers to keep all data analytics in-house if they can do so.

When existing IT systems cannot fulfil the requirements for the models (e.g., by bringing in more clinical data), they need to build the systems themselves and so far, they have built 12 to 13 different IT systems. The initial strategy was to develop all IT systems and data platforms themselves and transfer data across models, however this has proven to be challenging and resource-intensive, even for a well-funded organisation such as the CMMI. Nonetheless investing and modernising IT systems are important to be more effective and efficient as was mentioned by one participant:

*“The IT system is very costly and working efficiently is important. When you spent billion dollars of investments,*

*you need to implement a good IT system to manage and coordinate projects efficiently and not from Excel spreadsheets.”*

One other suggestion made, is to identify similarities across the different models, so you can use things that have been previously developed across the board. This will also increase the ability to adapt and respond towards policy initiatives or priorities.

New developments in the digital space such as artificial intelligence and machine learning can have benefits and its opportunities for improving the funding programmes should be explored. For this reason, the CMMI started exploring the possibilities of predictive analytics, artificial intelligence, and machine learning. They have for example launched the competition “Artificial Intelligence Health Outcomes Challenge” on how to use AI and machine learning to predict unplanned hospital admissions.

## Essential skills for the success of projects

It became apparent that when it comes to implementing organisational innovation, certain skills can make a difference in the success of the projects. Considering the different approaches that the funding programmes take, there is an obvious set difference in the people they need and as well look for within the funding programme. At the CMMI, where they centralise most functions, they have access to a wide base of personal with different backgrounds, creating a multidisciplinary team. 50 percent of the staff works on stages in the project life cycle which can be split into four major groups: seamless care models group, patient care models group, state innovation group, and prevention and population group. Whereas the other 50 percent works in cross-cutting functions such as business services group (IT, budget, contracts), learning and diffusion group (purpose is to facilitate learn in between the models and participants), programme and policies group, and the research and



rapid cycle evaluation group (annual evaluations of all models). In addition, they hire additional contractors (about 50), also on the agency level, to make up for missing skills (E.G., CMS, IT solutions).

Funding Programmes have been set out differently across countries and require different skills for in-house staff, dependent on the tasks that the funding programme carries out. While the CMMI does most or all the work from within the funding programme, this is not the case for the other funding programmes involved in this workshop series. Nevertheless, the need for some skills could be identified as common across different funding programmes for increasing the success of projects. These can be split into two categories, formal and informal skills.

Formal skills	Informal skills
<ul style="list-style-type: none"> <li>• Project management</li> <li>• Knowledge of care pathways</li> <li>• Quantitative &amp; qualitative analysis</li> <li>• Health system research</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding and applying change management</li> <li>• Understanding and applying in the local context</li> <li>• To build relations with clinicians</li> </ul>

Formal skills are for example good project management skills, a good clinical understanding of patient's pathways and the ability to measure appropriate data. In the context of the NHS, it is also important that they understand how the NHS operates as it can be experienced as complex. Furthermore, representatives of the AHSNs point out that they often need clinicians for the duration of the project as well as patient champions to overcome certain obstacles. Then, participants also placed a high value on the skills and knowledge related to health systems research and the service type evaluations linked to this.

On the informal skills needed for the success of projects, three major points emerged from the discussions:

- Firstly, it is important for project managers to handle change and understand change management alongside clinicians. Managers need to be able to engage in a constructive way and as mentioned earlier, the AHSNs even developed a special programme for this. Especially valuable are energetic senior clinical champions who can explain the benefits of the project on a peer-to-peer level as well as local leaders who champion innovation.
- Secondly, the project team needs to understand the local context and how innovation can be adopted to suit that local context (tailor-made approach). To do this, they will need to be familiar with organisations and innovations internationally, regionally, and locally as well as understand regional priorities and major innovations in the area.
- Thirdly, when it comes to implementation of innovation project, it is important for the project team to have the ability to establish relationships with health care professionals who do not have a lot of time and for whom the innovation may be a low priority now.

## Evaluating projects

Evaluation plays an important role in all the funding programmes as it can reveal how well the new care or payment method achieved its goals. One participant said that it was especially important to get results from a real-world setting:

*“What people really seek is compelling evidence in a real-world setting compared to the one they are in (local context) and benefits that not just improve clinical outcomes.”*

At the CMMI, the evaluation team works closely with the programme team when they are constructing the model to make better evaluations possible. The size of the group on which the care or payment model is tested should be large enough to obtain statistics, but not too large that it becomes unmanageable. This was further explained by one participant as follows:

*“There are certain design choices that are more difficult to evaluate than others, so it is about finding the balance between what is feasible on the programme side versus trying to maximise/ improve the odds of designing it with minimal bias.”*

Very few of the models that the CMMI implements use a randomised design. The challenge that occurs in the absence of a randomised design, is to construct a comparison group that is not exposed to the intervention. This is particularly difficult in a voluntary model where healthcare providers can self-select to participate in the testing of the model. Therefore, they spend a good amount of their time and resources to get as close as possible to a randomised design by using econometric tools that assess whether the comparison group matches the intervention group. Quantitative evaluation methods such as "differences in differences" and "time series analysis" are used to measure the relative change over time between the intervention groups. In addition, when constructing the comparison group, they may also use methods such as propensity score matching and entropy balancing, depending on the nature of the model.

When it comes to the evaluation, the CMMI, mentioned many challenges. There is for example the problem with data availability (e.g., Medicaid, Medicare advantage), the transferability of a sample size to determine a model's effect, the impact of sample sizes and their

ability to determine larger scale effects, and the ever-changing health care landscape and the complexity of measuring multiple co-occurring interventions at the same time.

At the AHSNs, they rely on recommendations and guidance from the National Institute for Health and Care Excellence (NICE)<sup>15</sup> when it comes to national AAC programme, and they also work with NICE on real world evaluations and how to maximise the value of such evaluations. There was especially a focus on finding ways to collect data that provide insight on the impact that innovation projects have on healthcare providers. In general, they see that there are still many small projects or central initiatives which are poorly evaluated. Another challenge that was mentioned by the participants from the AHSNs, is that currently in the evaluation of national innovation projects, only the health care savings are being considered within the financial analysis of the project and not the social care savings.

The Innovationsfonds seemed to be especially focussed on collecting evidence when it comes to evaluating projects. Each project proposal must include a robust evaluation concept as well as include a partner who will carry out the evaluation independently from the primary investigator. It was even argued by one participant that:

*“An inadequate evaluation concept cannot be compensated for with a high need for care or with the impressive plausibility of an intervention.”*

In broad terms, the Innovationsfonds focuses on assessing effectiveness, understanding change process, and assessing cost-effectiveness. Where assessing process change was mentioned to be the most difficult criteria to achieve. Furthermore, they especially emphasised that it is important to look at both the short- and long-term effects within each of the

---

<sup>15</sup> <https://www.nice.org.uk/>

evaluation areas. Projects within the field of organisational innovation and deal with systems and processes, can be especially difficult to evaluate. To provide guidance on evaluating such interventions, several articles and evaluation models were mentioned in the presentation of the Innovationsfonds:

- Complex interventions (O'Cathain et al. 2019)
- Process evaluation (Moore et al. 2015; Krause et al. 2021)
- Logic models (Mills et al. 2019; Silies et al. 2020)
- Context (Pfadenhauer et al. 2017; Bleijenberg et al. 2018).

At the Article 51 programme, the evaluations have not reached the final stages yet (funding programme launched in 2018) and they expect the first evaluations to be completed in 2022. However, they have worked on the development of evaluation protocols and could share from this experience, that when it comes to these type of project evaluations it is difficult to find a one-size-fits-all approach. The model as well as the context makes these projects unique, and it will require a good understanding and sound judgement to adapt the protocols to the specific project. This was illustrated by one participant saying:

*“There is no one-size-fits-all method for evaluating projects, but more a need to find out triggers to guide the design of the evaluation methodology.”*

At the Article 51 programme, they have chosen for an external independent evaluation with either consultant firms or researchers specialised in health care. They describe the evaluations as a collaborative process involving the experimenter. Currently the Article 51 team is in charge for providing methodological support and expertise at different stages of the evaluation and for making data available to the external evaluators. However, to improve transparency, avoid conflicting interests and preserve the objective view on the effects of a project, an independent organisation will be set up. This organisation will ensure

that the different data sources needed for performing the evaluations will be provided from a neutral standpoint.

## Success versus failure of projects

There seems to be a more political discussion when it comes to determining the success or failure of projects funded by the different programmes. Even though that politically the funding programme may have been advocated on its potential benefits and success, bringing in certain level of expectations, it is important not to forget what could be learned from projects that were determined unsuccessful. Considering this it was said by one participant that:

*“People sometimes do not want to know whether a particular programme worked or not because politically it has to be seen as a success.”*

Resources spent does not need to mean resources wasted when a project is not considered successful. It was urged by the participants in this workshop series to move away from judging the success of projects by what people can count and try to move towards measuring actual health outcomes. The focus here should be on the replicability of the results and on transferring the lessons learned to improve the overall chances of designing and testing a new care and payment model with success.

At the CMMI, when a model does not fulfil the criteria for expansion, they will use whatever lessons they have learned in this project towards either re-designing a successor or implementing the lessons in all their other projects, or both. They also allow for up to three iterations in currently tested models or if the model proves to be non-deployable, the CMMI works with the healthcare provider (in which the model is tested) to bring it to an

end. On the topic of cross-learning between models, the participants from the CMMI believe in the value of a separate team who can dedicate time to identify common points across models. In doing so, they can prevent that resources are spend on “reinventing the wheel” such as when developing a new care or payment model.

At the Article 51 programme, there is also an emphasis on the importance of learning from each project and on appreciating its success or failure. They provide for example decision making support to the national committee who decides on the future of projects and do this by capitalising and consolidating the lessons learned from the different experiments (e.g., by themes, similarities, etc). This is helpful as it provides a better overall analysis of the new care or payment method and can provide insights for predicting the dissemination of projects and scale up opportunities. By comparing similar experiments, it becomes also possible to identify specific levers and barriers towards implementing new care and payment methods within the health system.

Within this discussion on successful and unsuccessful projects, it was added by the participant from the Innovationsfonds, that it is especially important to collect results from projects that take different approaches towards designing and testing of a new care or payment method (e.g., ones that are more academic and others that are more practice based). Only recently started, they have already seen its benefits as it helps them with understanding the context in which the innovation is tested. By collecting results of different projects on a particular innovation or its context it becomes possible to design interventions better.

## Academic rigor versus timely results

When it comes to the dissemination of research, it was mentioned that academics are pleased to work with funding programmes as it is a way to raise awareness about their publications. Sometimes it can be difficult to get the results or interesting findings from a research to the clinical frontline. Funding programmes on testing new care and payment

methods can help with this. The AHSNs have for example seasonal events in paediatrics or cardiovascular diseases where they invite academic speakers to share the findings of their research. One participant from the AHSNs continued saying:

*“We work closely with the research structures to look at the pipeline and seek to shape their work that it provides information that stakeholders require.”*

Evaluation is a timely process and is dependent on the availability and collection of the necessary data. At the CMMI they have placed the benchmark for a preliminary impact analysis of the tested new care or payment method on a minimum of 18 months and the complete analysis at a minimum of 24 months. Earlier is not possible due to the delay on claim data (A longer period on sending in claims), which is one piece of information they need for projecting results. The main reason for providing a preliminary impact analysis at 18 months is due to a mismatch with decision making and the availability of results. Decision makers are often waiting for the results of a model before the complete assessment is finalised. A preliminary impact analysis can in this situation provide an indication on how the model is doing and what direction the evaluation is likely to go. To evaluate quickly and get the results needed for decision making, the CMMI uses their own unit of evaluators as well as hire external contractors such as consultants. Academics and universities are sometimes left out in this type of work due to the tight deadlines of these evaluations.

Another challenge raised by participants from the CMMI is the tension between the rigor of evaluations, especially the threshold that is set on success, and the goals set by policy makers. With academics, the general rule or standard of measuring effects is a threshold of 95 percent confidence also known as p value. This is the bar set to judge if a direct cause and effect relation has been found. However, policy makers may be willing to accept a



lower level of confidence in the cause-and-effect relation, when for example the intervention has a lot of potential.

Participants from the AHSNs added that it is foremost necessary to determine the level of rigor that stakeholders find acceptable. When the evaluation shows that a new care or payment method has 80 percent confidence that it will reduce cost or increase quality, it might be worth to further develop and test the model. Here it is important to understand that evaluation is one part of the process. Policy makers do often not follow the scientific output from for example clinical researchers, due to the availability of resources or political pressure (e.g., COVID-19 pandemic). On the other hand, it is not always necessary to prove something scientifically as was illustrated with an example by the AHSNs where they introduced a secure electronic interface between the hospital and the local pharmacists to support discharged patients with their prescribed medicines<sup>16</sup>. At the time, there was no good study available that had proven the effects of this intervention, but the AHSNs decided to go ahead with implementing this intervention. However, it does get tricky when there is only limited data available with for example the use of diagnostic or digital devices. Nonetheless one participant remarked that:

*“We are looking to provide information and outputs that are meaningful to the people that make the decisions, but in a way that is not dishonest.”*

It is important to involve stakeholders at an early stage and focus on concepts of co-creation when designing a new care and payment method. There is still a gap between policy makers, researchers and politicians and a lot can be accomplished when involving different

---

<sup>16</sup> <https://www.ahsnnetwork.com/about-academic-health-science-networks/national-programmes-priorities/transfers-care-around-medicines-tcam>

parties from the start. At the AHSNs it was said that there is a debate on the extent that research communities should be involved:

*“There is an active debate in England about the extent to which and how the research community should undertake rapid evaluations of regional and national programmes AHSNs initiate. Ideally, we do at an early stage of project development where we can identify and involve interested researchers.”*

The Innovationsfonds on the other hand appeared to be much more rooted in an academic and peer review publication setting. They believe that collecting scientific evidence is essential before making a judgement about the intervention. This comes from their experience where an intervention was perceived as successful by those involved but had more adverse effects after being properly evaluated.

This is also the reason that the CMII collects primary data (qualitative research) to provide context and help with interpreting the quantitative results. From their experience, those were not always aligned and sometimes participants told them something different than the quantitative data showed or the other way around, where quantitative data suggested an impact in a utilization measure and providers said that nothing had changed.

At the CMMI they recently started exploring the possibility of a participative governance where the evaluation team has more influence on the type of questions that they can explore as an evaluation unit. Areas of which they believe would provide additional value towards evaluating new care and payment methods, rather than passively providing evaluation input to decision makers. However, it is too soon to draw any lessons whether this

additional decision-making power could act as a bridge between academia and policy makers.

## Expand or scale projects to other regions and issues of equity

When the new care or payment method shows promise and enough evidence has been collected, the next step would be to expand or scale up the project and implement it in other regions of the country.

The AHSNs have an important dissemination role in the organisational innovation pipeline and indicate which innovations and service pathways are well evidenced and which are not. Once it is decided to expand a certain innovation, there is a regulation in place that requires each NHS commissioning board to implement the innovation. This has its own challenges and implementation does not go at the same speed for each regional NHS and local healthcare provider. This is where the AHSNs come in to support the implementation, and they work closely with local organisations to do this efficiently and effectively.

At the Innovationsfonds, the innovation committee decides which projects should be scaled up and financed by the statutory health insurance companies. In this step it is helpful that the statutory health insurance companies have been involved in the committee with both the funding programme and the projects. Two new care or payment methods have been adopted into usual care: “Tele Emergency physician”<sup>17</sup> and intensive prevention programme for caries in pre-school children<sup>18</sup>.

At the CMMI, two models have been certified for national expansion: the pioneer ACO<sup>19</sup> and the Diabetes Prevention Program<sup>20</sup>. When it comes to the implementation and expansions of new care and payment methods to other regions, it is important to consider the

---

<sup>17</sup> See <https://link.springer.com/article/10.1186/s13561-021-00303-5>

<sup>18</sup> See <https://pubmed.ncbi.nlm.nih.gov/29582152/>

<sup>19</sup> See <https://innovation.cms.gov/innovation-models/pioneer-aco-model>

<sup>20</sup> See <https://innovation.cms.gov/innovation-models/medicare-diabetes-prevention-program>

context. Like the AHSNs who emphasise on local adaptation and local support, the CMMI also takes a supportive role and does not strictly set the rules on how a model should be adopted within the organisation but let healthcare providers find the most suitable approach themselves. To illustrate, one participant said that:

*“Everyone does it slightly different depending on their geographic area, their patient population”.*

At the CMMI, care or payment methods are tested on a voluntary basis first. This allows stakeholders to familiarise themselves with the new model and overcome the obstacles and resistance you might have with a mandatory test. On the other hand, there is a concern however about the potential bias in voluntary models. Healthcare providers that are willing to test the new care or payment model, are potentially already in a more favourable position to make the model work. This has been confirmed by the results of models they tested on a mandatory basis. The CMMI notes that the mandatory version does not generate the same amount of cost savings due to selection issues and biases. Providers that have been included in the testing phase can be different in ways that are unmeasurable, which result in impact estimates not being generalisable to the larger provider community in the country.

In general, this is also where issues of equity arise, as not every region or neighbourhood has the same characteristics. The results from projects or interventions depend not only on the control group, but also on the healthcare providers included within the model as well as patient groups and demographics. Would for example the effects of a new care and payment method be the same in socioeconomically disadvantaged areas, working class or higher-class regions?

This topic has not yet been the focus for the CMMI or the Innovationsfonds. The CMMI, mentioned that some of their evaluations have looked at unintended consequences to make

sure that life of an already disadvantaged population would not become more difficult, such as by studying the differential impacts on various groups. However, sometimes the sample sizes do just not lend themselves to do these types of subgroup analyses.

The AHSNs on the other hand, have gained experience with including issues of equity in the rollout of projects due to political emphasis in recent years. They have successfully implemented projects in disadvantaged areas, which made them rethink their approach on providing support in terms of planning, monitoring the implementation, and measuring the results and impact. The AHSNs experienced several difficulties. Firstly, there is a clinical problem to address in reducing inequalities. Take for example cardiovascular disease, which is more prevalent within socioeconomic deprived communities in comparison to a disease that is spread evenly among all classes. Secondly, they have encountered that within disadvantaged areas, it is also more difficult to work with local people (staff/residents) and thirdly reaching a disadvantaged area and implementing the intervention successfully, often costs more money than it would in other regions. This was well illustrated by one participant who said that:

*“There is always the question about cost, and it turns out that if you wish to reach disadvantaged groups, then the intervention also cost more money and especially more money upfront and so the challenge in the evaluation is to capture that and to present that in the right way.”*

Considering this, it does raise the question about what can be considered a base line when evaluating a project and measuring its success?

## Conclusion

The term ‘innovation’ is used to mean many different things. It is most often used to refer to new medical technologies or techniques, based on biomedical or technological innovation. Strategies supporting innovation are also predominantly focused on research and innovation systems linking academia, industry, and government. The strategies that different countries take to support innovation vary widely and reflect the differences in the overall character of their different healthcare systems, such as the degree of centralisation or decentralisation within the system.

Organisational innovation is less often addressed than biomedical and technological innovation, with less funding, and is more difficult to achieve. Some countries invest in research funds for organisational innovation, as distinct from supporting the wider spread, scale-up and adoption of organisational innovations for which there is already established evidence. Other countries have set up a dedicated funding programme that support the development and testing of organisational innovation.

The funding programmes in this workshop series were set up differently each within a different healthcare system. However, it appears that the challenges of developing, testing, and implementing organisational innovation such as new care and payment methods were still recognised as similar by participants across systems. This shows the importance of cross-country evaluation and learning of these funding programmes and organisational innovation overall.

When it comes to the structure of the funding programmes itself, France, Germany -and England are taking a mix of bottom-up and top-down approach. Independent from the approach taken, it does seem, that to effectively implement and scale up, a certain level of centralising support as well as collecting skill sets is sensible when it comes to finding model similarities and potentially save resources. While all the funding programmes are trying to

find the most valuable investments on organisational innovation, some requirements set by the funding programmes individually, may cause the exclusion of potentially good projects.

Context is for example a crucial element in determining the effects of new care and payment methods, as is the detail of the actors involved and the challenges being addressed. This suggests that while the projects on different new care and payment mechanisms from elsewhere can provide inspiration for alternative approaches within health systems, their effectiveness in practice can only be assessed within the individual health system. The approach of innovation funds in supporting a wide variety of projects and evaluating their progress, thus seems to be an appropriate strategy. Further attention might thus be focused on identifying issues on which to concentrate in evaluating these projects, to best understand their impact in practice within the health system and in doing so to provide an evidence base regarding the most effective strategies for that unique context.

## References

- Amelung VE, Ozegowski S. (2017): Hält der Innovationsfonds, was er verspricht? Ein Zwischenfazit. *BARMER GEK Gesundheitswesen aktuell*, 148-173.
- Begley, A., Boyd, L., Chatterjee, A., Jenkins, S., Tailor, R., Fowler, M., Khan, R., Mukadam, Y., Pemovska, T., Eason, K., Hoare, A., & Maton-Howarth, W. (2018). *NHS Innovation Accelerator: Understanding how and why the NHS adopts innovation*. NHS Innovation Accelerator. <https://nhsaccelerator.com/wp-content/uploads/2018/11/NHS-Innovation-Accelerator-Understanding-how-and-why-the-NHS-adopts-innovation.pdf>
- Bloom, David E.; Chatterji, Somnath; Kowal, Paul; Lloyd-Sherlock, Peter; McKee, Martin; Rechel, Bernd et al. (2015): Macroeconomic implications of population ageing and selected policy responses. In *The Lancet* 385 (9968), pp. 649–657. DOI: 10.1016/S0140-6736(14)61464-1.
- Bleijenberg, Nienke; Man-van Ginkel, Janneke M. de; Trappenburg, Jaap C. A.; Ettema, Roelof G. A.; Sino, Carolien G.; Heim, Noor et al. (2018): Increasing value and reducing waste by optimizing the development of complex interventions: Enriching the development phase of the Medical Research Council (MRC) Framework. In *International journal of nursing studies* 79, pp. 86–93. DOI: 10.1016/j.ijnurstu.2017.12.001.
- Chaix-Couturier, C.; Durand-Zaleski, I.; Jolly, D.; Durieux, P. (2000): Effects of financial incentives on medical practice: results from a systematic review of the literature and methodological issues. In *International journal for quality in health care: journal of*



*the International Society for Quality in Health Care* 12 (2), pp. 133–142. DOI: 10.1093/intqhc/12.2.133.

Collins, B. (2018). *Adoption and spread of innovation in the NHS*. The King's Fund. [https://www.kingsfund.org.uk/sites/default/files/2018-01/Adoption\\_and\\_spread\\_of\\_innovation\\_NHS\\_0.pdf](https://www.kingsfund.org.uk/sites/default/files/2018-01/Adoption_and_spread_of_innovation_NHS_0.pdf)

Cylus, J., Richardson, E., Findley, L., Longley, M., O'Neil, C., & Steel, D. (2015). United Kingdom: Health system review. In *Health systems in transition* (Vol. 17). European Observatory on health systems and policies.

Department of Health (2011). *Innovation Health and Wealth, Accelerating Adoption and Diffusion in the NHS*. Department of Health. [https://webarchive.nationalarchives.gov.uk/20130107070708/http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh\\_digitalassets/documents/digitalasset/dh\\_134597.pdf](https://webarchive.nationalarchives.gov.uk/20130107070708/http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_134597.pdf)

Department of Health and Human Services. (2020). *U.S. Department of Health and Human Services; FY 2021 Annual Performance Plan and Report*. US Department of Health and Human Services. <https://www.hhs.gov/sites/default/files/fy2021-performance-plan.pdf>

Edquist, C. (2009). Systems of Innovation: Perspectives and Challenges. In J. Fagerberg & D. C. Mowery (Eds.), *The Oxford Handbook of Innovation* (pp. 1–28). Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199286805.003.0007>

Emanuel, E. J., Glickman, A., & Johnson, D. (2017). Measuring the Burden of Health Care Costs on US Families: The Affordability Index. *JAMA*, 318(19), 1863–1864.

<https://doi.org/10.1001/jama.2017.15686>

Ettelt, S., Mays, N., & Allen, P. (2014). The Multiple Purposes of Policy Piloting and Their Consequences: Three Examples from National Health and Social Care Policy in England. *Journal of Social Policy*, 44(2), 319–337.

<https://doi.org/10.1017/S0047279414000865>

Gosden, T.; Forland, F.; Kristiansen, I. S.; Sutton, M.; Leese, B.; Giuffrida, A. et al. (2000): Capitation, salary, fee-for-service and mixed systems of payment: effects on the behaviour of primary care physicians. In *The Cochrane database of systematic reviews* (3), CD002215. DOI: 10.1002/14651858.CD002215.

Government Accountability Office (GAO). (2018). *CMS INNOVATION CENTER; Model Implementation and Center Performance*. GAO. <https://www.gao.gov/assets/700/690875.pdf>

Greenhalgh, T., Robert, G., Bate, P., Macfarlane, F., & Kyriakidou, O. (2005). *Diffusion of innovations in health service organisations: A systematic literature review*. Blackwell Publishing.

Krause, Nicole; Riemann-Lorenz, Karin; Steffen, Tanja; Rahn, Anne Christin; Pöttgen, Jana; Stellmann, Jan-Patrick et al. (2021): Study protocol for a randomised controlled trial of a web-based behavioural lifestyle programme for emPOWERment in early Multiple Sclerosis (POWER@MS1). In *BMJ open* 11 (2), e041720. DOI: 10.1136/bmjopen-2020-041720.

Ministry of Solidarity and Health (2020): Experiment and innovate to better care.

Organization and financing of the health system, checked on 4/8/2020.

Mills, Thomas; Lawton, Rebecca; Sheard, Laura (2019): Advancing complexity science in healthcare research: the logic of logic models. In *BMC medical research methodology* 19 (1), p. 55. DOI: 10.1186/s12874-019-0701-4.

Moore, Graham F.; Audrey, Suzanne; Barker, Mary; Bond, Lyndal; Bonell, Chris; Harde-  
man, Wendy et al. (2015): Process evaluation of complex interventions: Medical  
Research Council guidance. In *BMJ (Clinical research ed.)* 350, h1258. DOI:  
10.1136/bmj.h1258.

National Institute for Health Research (NIHR). (2020). *Annual Report 2018/2019*. National  
Institute for Health Research (NIHR). [https://www.nihr.ac.uk/about-us/our-contri-  
bution-to-research/research-performance/12228\\_NIHR\\_Annual\\_Re-  
port\\_18\\_19.pdf](https://www.nihr.ac.uk/about-us/our-contribution-to-research/research-performance/12228_NIHR_Annual_Report_18_19.pdf)

*NHS Accelerated Access Collaborative » Innovation and Technology Payment*. (2020).  
NHS England Accelerated Access Collaborative. [https://www.eng-  
land.nhs.uk/aac/what-we-do/what-innovations-do-we-support/innovation-and-  
technology-payment/](https://www.england.nhs.uk/aac/what-we-do/what-innovations-do-we-support/innovation-and-technology-payment/)

Nolte, E. (2018). *How do we ensure that innovation in health service delivery and organi-  
zation is implemented, sustained and spread?* (H. Kluge & J. Figueras, Eds.). World  
Health Organization (WHO) & European Observatory on Health Systems and Pol-  
icies. [https://www.euro.who.int/en/about-us/partners/observatory/publica-  
tions/policy-briefs-and-summaries/how-do-we-ensure-that-innovation-in-health-](https://www.euro.who.int/en/about-us/partners/observatory/publications/policy-briefs-and-summaries/how-do-we-ensure-that-innovation-in-health-)

service-delivery-and-organization-is-implemented,-sustained-and-spread

- O'Cathain, Alicia; Croot, Liz; Duncan, Edward; Rousseau, Nikki; Sworn, Katie; Turner, Katrina M. et al. (2019): Guidance on how to develop complex interventions to improve health and healthcare. In *BMJ open* 9 (8), e029954. DOI: 10.1136/bmjopen-2019-029954.
- OECD. (2015). *Fiscal Sustainability of Health Systems: Bridging Health and Finance Perspectives*. OECD Publishing. [http://www.oecd-ilibrary.org/social-issues-migration-health/fiscal-sustainability-of-health-systems\\_9789264233386-en](http://www.oecd-ilibrary.org/social-issues-migration-health/fiscal-sustainability-of-health-systems_9789264233386-en)
- Omram, Abdel R. (2001): The epidemiologic transition: a theory of the epidemiology of population change. In *Bulletin of the World Health Organization* 79, pp. 161–170.
- Pfadenhauer, Lisa M.; Gerhardus, Ansgar; Mozygemba, Kati; Lysdahl, Kristin Bakke; Booth, Andrew; Hofmann, Bjørn et al. (2017): Making sense of complexity in context and implementation: the Context and Implementation of Complex Interventions (CICI) framework. In *Implementation science: IS* 12 (1), p. 21. DOI: 10.1186/s13012-017-0552-5.
- Philipson, L. (2005). Medical Research Activities, Funding, and Creativity in Europe: Comparison With Research in the United States. *JAMA*, 294(11), 1394–1398. <https://doi.org/10.1001/jama.294.11.1394>
- Plsek, P. E., & Greenhalgh, T. (2001). The challenge of complexity in health care. *BMJ*, 323(7313), 625–628. <https://doi.org/10.1136/bmj.323.7313.625>
- Rechel, Berndl; Doyle, Yvonne; Grundy, Emily; McKee, Martin; World Health

Organization (2009): How can health systems respond to population ageing. Copenhagen: WHO Regional Office for Europe.

Rogers, E. M. (2003). *Diffusion of Innovations* (5th ed.). Free Press.

#### Publication bibliography

Bleijenberg, Nienke; Man-van Ginkel, Janneke M. de; Trappenburg, Jaap C. A.; Ettema, Roelof G. A.; Sino, Carolien G.; Heim, Noor et al. (2018): Increasing value and reducing waste by optimizing the development of complex interventions: Enriching the development phase of the Medical Research Council (MRC) Framework. In *International journal of nursing studies* 79, pp. 86–93. DOI: 10.1016/j.ijnurstu.2017.12.001.

Krause, Nicole; Riemann-Lorenz, Karin; Steffen, Tanja; Rahn, Anne Christin; Pöttgen, Jana; Stellmann, Jan-Patrick et al. (2021): Study protocol for a randomised controlled trial of a web-based behavioural lifestyle programme for emPOWERment in early Multiple Sclerosis (POWER@MS1). In *BMJ open* 11 (2), e041720. DOI: 10.1136/bmjopen-2020-041720.

Mills, Thomas; Lawton, Rebecca; Sheard, Laura (2019): Advancing complexity science in healthcare research: the logic of logic models. In *BMC medical research methodology* 19 (1), p. 55. DOI: 10.1186/s12874-019-0701-4.

Moore, Graham F.; Audrey, Suzanne; Barker, Mary; Bond, Lyndal; Bonell, Chris; Harde-  
man, Wendy et al. (2015): Process evaluation of complex interventions: Medical  
Research Council guidance. In *BMJ (Clinical research ed.)* 350, h1258. DOI:

10.1136/bmj.h1258.

O'Cathain, Alicia; Croot, Liz; Duncan, Edward; Rousseau, Nikki; Sworn, Katie; Turner, Katrina M. et al. (2019): Guidance on how to develop complex interventions to improve health and healthcare. In *BMJ open* 9 (8), e029954. DOI: 10.1136/bmjopen-2019-029954.

Pfadenhauer, Lisa M.; Gerhardus, Ansgar; Mozygemba, Kati; Lysdahl, Kristin Bakke; Booth, Andrew; Hofmann, Bjørn et al. (2017): Making sense of complexity in context and implementation: the Context and Implementation of Complex Interventions (CICI) framework. In *Implementation science: IS* 12 (1), p. 21. DOI: 10.1186/s13012-017-0552-5.

Silies, Katharina; Schnakenberg, Rieke; Berg, Almuth; Kirchner, Anne; Langner, Henriette; Köberlein-Neu, Juliane et al. (2020): Process evaluation of a complex intervention to promote advance care planning in community-dwelling older persons (the STADPLAN study)-study protocol. In *Trials* 21 (1), p. 653. DOI: 10.1186/s13063-020-04529-2.

Srivastava, Divya; Mueller, Michael; Hewlett, Emily (2016): Better Ways to Pay for Health Care: OECD.

The AHSN Network. (2019). *AHSN Network Impact Report 2018-19*. The AHSN Network.  
<https://www.ahsnnetwork.com/wp-content/uploads/2019/07/AHSN-Network-Impact-Report-2018-19-Single-Pages-WEB.pdf>

United Nations (2019). The 2019 Revision of World Population Prospects.

<https://population.un.org/wpp/>

Walshe, K., & Davies, H. T. (2013). Health research, development and innovation in England from 1988 to 2013: From research production to knowledge mobilization. *Journal of Health Services Research & Policy*, *18*(3\_suppl), 1–12.  
<https://doi.org/10.1177/1355819613502011>

Walshe, K., McKee, M., McCarthy, M., Groenewegen, P., Hansen, J., Figueras, J., & Ricciardi, W. (2013). Health systems and policy research in Europe: Horizon 2020. *The Lancet*.

## Annex 1: Setting the context for innovation

In the last century significant improvements in health have led to an epidemiological transition in high income countries, where the highest share of mortality rates and burden of disease within the population was no longer due to infectious diseases, but due to non-communicable diseases (Omram 2001). Improved life expectancy is leading to demographic ageing of the population, to the extent that in the next four decades, the world will see a doubling in the number of people aged of 60 years or older, rising to 22% of the population (Bloom et al. 2015). In Europe and Northern America specifically, prospects show that one in four could be aged 65 or over by 2050 (United Nations, 2019). With a smaller proportion of people left in the working age of 15-64 years old, caring for these people as well as maintaining our current lifestyle will become a financial challenge (European Commission 2018).

To keep health care sustainable, while ensuring that patients receive the best possible care, there is a need to find suitable ways of organising and structuring health care that are better applicable to the treatment of non-communicable diseases and multimorbidity. Improving coordination processes across different health and social care actors are crucial to make this happen, current care and payment systems can be an obstacle to achieving this (Rechel et al. 2009). There is especially a need for new care and payment models that for instance improve care coordination or develop services for patients with complex health needs that span across different levels of care (Srivastava et al. 2016).

France is a country with a well-regarded healthcare systems and good health outcomes. However, delivering and maintaining a high-quality healthcare system comes with a price that is becoming less sustainable each year (Chevreul et al. 2015; OECD 2019). In France, the political health economy of today has been shaped by a history of medieval guilds, church, and corporatism, which introduced entrepreneurship, fee for service payment and financial ties to commercial interests (e.g., drugs and medical devices) (Rodwin 2011). The use of different methods to pay healthcare providers affects health system performance,



such as in relation to cost containment, volume, quality improvement, relations between actors or overall efficiency (Srivastava et al. 2016). In France, the most common method of paying healthcare providers is fee for service, frequently used in primary care, outpatient specialist care and insurance companies. However, this payment method has unintended consequences such as the increased utilization of resources, the availability of unnecessary services and high transaction costs (Gosden et al. 2000; Srivastava et al. 2016).

Innovation is central to health systems and policy, with the intention that innovation drives improvement and change in health systems, although this brings both opportunities and challenges. Many countries have established specific mechanisms to encourage innovation in health, including innovation funds, specific programmes, and strategies.

## What is innovation?

An innovation can be defined as an idea, or a practice, or a technology that is perceived as new (Rogers, 2003). This means that an idea or practice or technology may be innovative in one country whilst being commonplace in another – or even in one organisation or part of an organisation whilst commonplace elsewhere in the same country.

It is also useful to distinguish different types of health innovation, and three in particular: biomedical innovation; technological innovation; and organisational innovation. Biomedical innovation is focused on better understanding of and intervention in the biological systems of and affecting the body, such as a new drug. Technological innovation is the use of technology to improve health, such as medical devices or information technology platforms for telemedicine. Organisational innovation is focused on how organisations and systems work, such as integration of processes of care across different providers or new payment mechanisms. Unlike biomedical or technological innovation, organisational innovation is influenced by the characteristics of health systems (existing health care delivery models, existing payments methods, dedicated human and financial resources).

Even if health systems' characteristics are different in each country, it seems that there is a common trend for certain organisational models: integrated care, accountable care

organisations, enhanced primary care, bundled payments, episode-based payments; shared-savings, patient-centred care, populational approaches, etc.

The challenge lies rather on how to reconcile the needs of organisations at the local level and innovation trends at the national level. Organisational innovation success or failure seems to rely more on the capacity to overcome local specificities (rural/urban territories; high/low employment rates; young or older population; risk factors; morbidity, professional background, and practices, etc).

## How is innovation supported?

While there is a great deal of attention given to supporting innovation in health, this is not evenly spread. Most support for innovation in health is typically focused on biomedical or technological innovation; new drugs, devices or (increasingly) wider health technologies such as mobile health or machine learning (Walshe et al., 2013). This approach creates challenges to health systems, with a constant flow of new biomedical and technological innovations, but a lack of support to the organisational innovations needed to put them into practice. Moreover, while these new biomedical and technological innovations represent great potential to improve health, they are also the principal driver of rising overall expenditure on health in developed countries (alongside rising incomes and thus expectations) (OECD, 2015).

Funds for innovation in health are correspondingly concentrated on biomedical and technological innovation. For example, in the UK, funding for innovation in health has expanded substantially in recent decades; the largest funder, the National Institute for Health Research (NIHR), has a budget of over €1.1 billion (National Institute for Health Research (NIHR), 2020). However, this is focused on new research; though one area of new research is health service and delivery research, for example, funding for implementation of research and the adoption and spread of new innovations in practice is in principle not covered; this is discussed in more detail below.

## The challenge of organisational innovation

Organisational innovation presents specific challenges for health systems and policy. Organisational decisions such as how organisations are structured, regulation and quality requirements, costing and payment mechanisms, and monitoring and accountability structures clearly will shape how organisations work both internally and with each other. However, unlike biomedical and technological innovations, these organisational and system decisions are context specific (Plsek & Greenhalgh, 2001).

Innovation in healthcare is most often focused on provision; how healthcare is provided. Innovation in purchasing has been relatively limited. Learning about purchasing mechanisms or commissioning between countries presents challenges as payment mechanisms tend to be highly specific to each health system context, and their impact is specific to the means and ends for which they are used. The principal innovations of recent years have been the introduction of diagnostic-related groups as a payment mechanism and earlier the increasing use of health technology assessment measures to inform both purchasing and provision decisions.

The challenges of organisational innovation and implementation have led to a specific research field, that of implementation science, which has identified a wide range of challenges to successfully implementing organisational change, with as yet no clear or universal solutions (Greenhalgh et al., 2005). Learning from organisational innovations in other countries or settings is thus especially challenging, as it also requires understanding the specific context where they have been implemented, and what that suggests for learning from them. This has recently been the focus of the TO-REACH project (funded by Horizon 2020), which has set out some of the priority issues involved<sup>21</sup>.

---

<sup>21</sup> See <https://to-reach.eu/our-strategic-research-agenda/>

Evidence from recent innovation in service organisation and delivery in Europe (Nolte, 2018) suggests seven key factors:

- Leadership and management that are supportive of change.
- Early and widespread stakeholder involvement, including staff and service users.
- Dedicated and ongoing resources including funding, staff, infrastructure, and time.
- Effective communication across organisations - and between them, where relevant.
- Ongoing monitoring and timely feedback.
- Adaptation of the innovation to the local context and integration with existing programmes and policies.
- Evaluation and demonstration of effectiveness and cost-effectiveness.