



# HARMONY

Healthcare Alliance for Resourceful Medicines  
Offensive against Neoplasms in Hematology

DRAFT

## Policy Strategy for European, National and Regional Decision-Makers in Europe

Strategizing and Streamlining Medical Treatment  
in the EU: The Transformation of the Treatment of  
HM as Model for the Future.

The Policy Strategy developed by the HARMONY Alliance, aims to empower professionals in the hematological community to set out the issues to be tackled and the policy framework needed to facilitate bringing innovations in hematology into the healthcare systems.

PUBLISHED BY THE HARMONY ALLIANCE:

European Network of Excellence for Big Data in Hematology. Enabling Better and Faster Treatment for Patients with Hematologic Malignancies



**Published by the HARMONY Alliance: European Network of Excellence for Big Data in Hematology.**

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## Preface

### The HARMONY Alliance: Singing from the same song sheet

Ask any politician, and he or she will tell you that healthcare is of primary importance to constituents, at European national and local levels. HARMONY is engaging with current MEPs and with future candidates, as well as with the European Commission and other law- and policy-makers to set the framework for bringing innovations in hematology into healthcare systems to benefit society.

The HARMONY Alliance is a European Network of Excellence that captures, integrates, analyses and harmonizes Big Data. It uses high-quality, multidisciplinary sources to acquire valuable knowledge across the spectrum of Hematologic Malignancies (known as HMs). As it stands, the Alliance is made up of 53 Partners and 32 Associated Members from 22 European countries, including 8 pharmaceutical companies from EFPIA. It brings together key stakeholders in the clinical, academic, patients, Health Technology Assessment, regulatory, economic areas.

Hematologic Malignancies are a heterogeneous group of blood cancer diseases of diverse incidence, and prognosis, and comparison of HM incidence across regions and over time is complicated by the existence of different disease classification systems and more. Obviously, incidence is one of the biggest and best measures of burden in a population, serving as a vital as guide to the allocation resources. Figures suggest that healthcare costs for each patient with blood cancers reach twice the figure compared to average cancer costs.

The total cost of blood disorders to the European economy was in the region of €23 billion in 2012 and is only moving higher. Blood cancers are in the top ten of the most common forms of cancer and are responsible for approximately 100,000 deaths in Europe every year. The proportion of healthcare cost within the total economic burden is higher for malignant blood disorders than for other solid tumors.

“Blood disorders are not only a burden for patients, but also for society as a whole, with about 80 million people having either malignant or non-malignant hematological disorders. We need to urgently step up how Europe tackles this. This policy strategy focuses on HM disease areas with a high unmet need and has the goal of unlocking valuable knowledge on hematological malignancies as the project goes forward.”

**Carin Smand,**  
Executive Director, European Hematology Association (EHA)  
HARMONY Partner, Lead Work Package 7: Communication & Dissemination.

“Policy is important, here, and HARMONY will engage with the current and upcoming rotating presidencies of the European Union, Romania, Finland, then Croatia. We will be working with all of them. Also, ongoing engagement with the European Parliament and the Commission is key, as well as with patient’s groups, the EMA, representatives at national level and all relevant stakeholders.”

**Denis Horgan,** Executive Director of European Association of Personalized Medicine (EAPM)  
HARMONY Partner, Work Package 7



The HARMONY Alliance is a public-private European Network of Excellence, established in January 2017. The mission of HARMONY is to unlock and spread valuable knowledge on hematologic malignancies (blood cancers) among a large number of stakeholders, with the goal of harnessing and mining Big Data to speed up the development of improved treatments for patients and of more effective treatment strategies.



#### **HARMONY Alliance Key Policy Objectives**

- Achieve greater cost-effectiveness
- Encourage competitiveness together with safety
- Employ evidence-based policy making
- Address the risk factors of non-communicable diseases



## Policy Strategy for European, National and Regional Decision-Makers in Europe

### **Strategizing and Streamlining Medical Treatment in the EU: The Transformation of the Treatment of HM as Model for the Future.**

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# 1. The European Union (EU) and the Transformation of Healthcare

The countries in the European Union are primarily responsible for organizing and delivering medical care and health services for their citizens and, increasingly, are adopting policies and practices that operate on a pan-European basis. In that context, health infrastructures are being modernized and decision- and policy-makers are seeking to enhance the efficiency of Europe's health systems by promoting the principles of collaboration (across national borders and across medical disciplines); communication (reporting on results achieved; on successful innovations and initiatives; and on effective mechanisms and policies); integration (of knowledge, expertise, and data); dissemination (of information and results); and cooperation (among experts, researchers, and key opinion leaders and stakeholders involved in the development of healthcare). European citizens now stand on the threshold of benefitting from better and more efficient healthcare because of new initiatives which have been launched to make healthcare more efficient, more patient-centered, more collaborative, and more responsive.

Since modern initiatives in medicine are inextricably tied to innovations in technology, moves are ongoing to fix the current failings in the way EU countries assess new health technology, all with the goal of bringing ground-breaking care faster to patients and to protecting health budgets by eliminating waste and duplication of efforts. Defects in the current systems for assessing new technologies have left citizens across the EU suffering from an innovation gap in healthcare. The present systems lead to delays and inconsistencies in assessing new technology and in preventing available cutting-edge interventions getting into the hands of health professionals so that they can improve their treatment of patients. The problem arises because the dozens of national and regional assessment methodologies and approaches across Europe differ widely and deliver divergent results—with the result that patient access to the best care is suboptimal. The lack of systematic sharing of expertise also means that assessments are not always as accurate or comprehensive as they should be and could be.



## 2. The Treatment of Hematologic Malignancies (HM) as a Relevant Model for Innovation

The EU has recognized that it is critical that policies and strategies must encourage medical expertise and experience to transcend national borders, thus streamlining the dissemination of medical innovations and of the introduction of new treatments and positively impacting the ever-increasing financial burdens posed rising healthcare costs. Initiatives related to the treatment of hematologic malignancies, such as those undertaken by the HARMONY Alliance, clearly demonstrate the efficacy of new policy initiatives on the part of the EU.

Blood cancers, or hematologic cancers, present a serious medical and financial challenge and account for about 40% of cancer cases in children and about one third of overall cancer deaths. Some of the most critical cancers that account for 100,000 deaths in Europe every year are: Multiple Myeloma (MM), Acute Myeloid Leukemia (AML), Acute Lymphoblastic Leukemia (ALL), Chronic Lymphocytic Leukemia (CLL), Non-Hodgkin's Lymphoma (NHL), Myelodysplastic Syndrome (MDS), and Pediatric Hematological Malignancies. Figures suggest that healthcare costs for each patient with blood cancers reach twice the figure compared to average cancer costs. Costs connected to blood disorders to the European economy were in the region of €23 billion in 2012 and are only increasing.

**Why are blood cancers so costly, both in human and financial terms?** The challenge of treating blood cancers lies in the fact that individual cancers usually need specific therapies, and information about which treatments/interventions work and which do not is often circumscribed by national boundaries and by the legally imposed confidentiality requirements inherent to each national healthcare program. These barriers to knowledge- and data-sharing are inhibiting the rapid improvement of HM patient care and are symptomatic of the barriers that exist in Europe, not only in relation to the treatment of blood disorders, but in terms of the treatment of other diseases and medical conditions.

Currently, the most common treatment options are bone marrow transplants, chemotherapy, and radiation therapy. Given the fact that many blood cancers are rare and that healthcare practices vary across Europe, a lack of data on relevant outcomes represents a challenge for clinicians, researchers, and other decision-makers, such as regulators and health technology assessment (HTA) bodies. By implementing a pan-European approach and by developing new tools based on Big Data and Big Data analytics, the HARMONY Alliance, for example, seeks to deliver information that will help to improve the care of patients with these diseases. It is thus providing a model to be replicated in the treatment of other diseases because it has mapped out transformative processes, strategies, and policies that are working to overcome barriers to treatment and to innovation.



Key policy strategies that the EU should consider embodying in any model for medical change and innovation are:

- achieving greater cost-effectiveness in terms of medical treatments and interventions;
- encouraging competitiveness, together with safety;
- employing evidence-based policy-making (for example, in the area of personalized medicine);
- enhancing the role of health-assessment technology (HTA) bodies;
- avoiding duplication of effort (in research and in data-gathering);
- accelerating the discovery of better and more effective medical interventions;
- facilitating the sharing of expertise and experience among EU Member States;
- streamlining the development of drugs and access appraisal; and
- facilitating regulatory evaluation.

### 3. The Transformative Power of Big Data

What the HARMONY Alliance has demonstrated through its initiatives in relation to the treatment of HM is that, by harnessing the enormous potential of Big Data technologies, the treatment of blood cancers, and thus the treatment of other diseases, can be transformed by: accelerating the discovery of better and more effective medical interventions; facilitating the sharing of expertise and experience among EU Member States; streamlining the development of drugs and access appraisal; and facilitating regulatory evaluations.

For blood cancers, Big Data means gathering into one single database clinical, genetic and molecular information on patients and diseases, which are currently maintained in a number of individual databases from clinical trials and registries in different countries. The HARMONY Alliance is orchestrating the efficacy of consolidating all relevant databases into one common platform. This will harness the enormous potential of Big Data and Big Data analytics to deliver insights into how the care of patients with blood cancers can be improved; such a strategy can work for other diseases.

Partners from industry are providing access to clinical trials data, showing how drugs work in controlled circumstances. Public registries are collecting data on how patients are treated and the outcomes of therapies in the real world. Together, these sources are greater than the sum of their parts. For example, by combining the populations from several clinical trials, it is possible to analyze populations with rare diseases with greater statistical power than individual databases can provide.

Other Big Data analyses can reveal molecular data on genomes, what proteins are expressed in different cancers, how treatments affect the expression of important genes, and more.





The HARMONY Big Data platform is enabling the rapid definition of promising treatment strategies, and the prediction of adverse events likely to be associated with such strategies. This will eventually bring about a reduction in the social and economic burden of hematological diseases on patients, caregivers and the healthcare system. This will empower European and national policymakers to support funding for health and welfare initiatives.

Stakeholders such as the European Alliance for Personalized Medicine have put forward plans in the vein of MEGA (Million European Genomes Alliance) which, while having a focus on producing a cohort of one million genomes, also extends to the sharing of all vital health-related data, under strict privacy and ethical controls. What is required is a coordinated approach across projects to ensure strategic alignment and consistency and to define new business and health funding models that will allow for healthcare systems' transformation.

In addition, much-needed integration of areas of expertise (such as legal, ethics, data privacy, sustainability or collaboration with payers/HTAs) will yield higher quality results, consistency, and increased efficiency by avoiding duplication of work. The transformation of HM treatments that has taken place are built on pre-existing long-term collaborations and successful HM projects carried out in partnership with the pharmaceutical industry and by means of collaboration with European key opinion Leaders in HM, together with experts in health economics and "real-life" data management and analysis. This will ensure that all key stakeholders are engaged, including patients.

To fulfill implement its strategy of streamlining and innovating healthcare, EU leaders and decision-makers must enhance cooperation and collaboration among stakeholders, and will need to engage politically, socially, and academically with all players who are able to contribute to their work, to their efforts to radically transform European healthcare, and to supply all stakeholders with the knowledge, expertise, and financial resources that will ensure success in their efforts to enhance medical care and innovation.



## 4. Big Data and Real-World Evidence

Real-world evidence has been called “an umbrella term for different types of healthcare data that are not collected in conventional randomized controlled trials [...] including patient data, data from clinicians, hospital data, data from payers and social data”<sup>1</sup>. Real-world data, meanwhile, has been described by the European Commission as “observational data that is not collected under experimental conditions (randomized clinical trials) but data generated in routine care from information related to a patient’s treatment. It can come from patient registries, electronic health records, insurance data and web/social media. Research plans that have been drawn up indicate that real-world evidence can be generated from such data sources”<sup>2</sup>.

The impact of real-world data has been powerfully demonstrated in the treatment of HM where, by means of the data collected on the Big Data platform, meaningful and useful parameters for hematological diseases have been built and validated and a common body of definitions that fit all HM have been created. Value-based assessment tools that focus on patient outcomes, on values and preferences, and on societal value have been articulated, thus enabling the perspectives of patients to be taken into account.

Such an approach has the end-result of creating a harmonized and integrated strategy that leads to real-world evidence outcomes.

## 5. Integrating Diagnostic Tools and Processes

A key policy strategy that offers a model for future medical initiatives is integrating the diagnostic tools and information that exist among HM specialists in all EU Member States. This is creating an environment that encourages the gaining of enhanced knowledge about biomarkers and about the genetic anomalies of HMs, information which is critical to the development of personalized medicine. A lack of such diagnostics hampers the ability of medical experts to accurately diagnose a particular HM and to prescribe the right/best course of treatment. A discussion is underway as to whether prognostic tests and mutation status assessments should be made mandatory.

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<sup>1</sup> <https://ec.europa.eu/digital-single-market/en/towards-thriving-data-driven-economy>

<sup>2</sup> <https://ec.europa.eu/digital-single-market/en/big-data>



## 6. Health and the Digital Single Market

Rising healthcare costs have meant that individual health systems are being increasingly challenged. It is in the context of these developments that Big Data, and specifically genomics (the interdisciplinary field of biology that focuses on the mapping, structure, and functioning of genomes containing an organism's DNA), has the potential to impact global levels of health, thus providing diagnostic, economic, and efficiency benefits that will ensure that patients receive the right information and the right treatment at the right time. This strategy fits in well with EU efforts to encourage treatments that transcend the existing boundaries of individual information systems in the health sector, which have historically concentrated on the local collection of data; the creation of multinational genomics programs will facilitate the alignment and integration of regional, national, and supranational eHealth programs and the establishment of appropriate international standards.

Maximizing the potential of these new and emerging medical discoveries will ultimately lead to a healthier, thus wealthier, Europe. The potential for bettering the health of the EU's 500 million citizens across the current 28 Member States is huge.

However, issues arising from this emerging field of medical diagnosis and intervention include legislation on data protection, on patient rights, and in relation to electronic identification, and it is important to develop a European health record format that citizens can access from anywhere in the EU" and render it "more seamless.

Not only does a digital single market using Big Data offer the potential to revolutionize the effectiveness of health interventions, it may also help ensure the more effective management of resources in what are increasingly cash-strapped public healthcare systems.

## 7. Patient-Centered Policies

Consistent patient involvement is key, because personalized medicine in hematology and elsewhere enables healthcare to move away from "trial and error" therapies to evidence-based individual approaches, thus transcending the "one size fits all" philosophy to the treatment of HMs. Healthcare is enhanced when patients are involved in their own treatment.

It is a truism that works for one patient may not work for another, and therefore, the systematic capturing, description, and publication of the results achieved; the benefits that have emerged; and the challenges that are posed are a vital policy tool, since any analysis and medical interventions that emerge then become evidence-based. This dovetails with the concept of personalized medicine that forms such a key component of the strategies and policies that HARMONY has adopted and that decision- and policy-makers are promoting across Europe.



What does the concept of “personalized medicine” entail? What it means is that the patient is at the center of his or her own care, which includes his or her ability to engage in co-decision-making with healthcare professionals. Across the European Union, a huge issue of concern in relation to the implementation of personalized medical care is access—equitable access to treatments, to information about new and emerging medical innovations, and to available care that is also affordable for all.

Currently, considerable inequalities and inequities exist across the EU, and there is a prevalent belief that personalized medical approaches will push up costs, which might be true in the mid- to long-term, but can be addressed by the development of better preventative measures.

A central component of current European discussions involves the creation of tools to promote and enhance dialogue and collaborative efforts to promote and explain the undoubted benefits of personalized medicine. A crucial element of this policy is a recognition of the need to inform key stakeholders on the benefits/opportunities of, and barriers to, targeted medicine and treatment in the arena of hematology and beyond. An essential part of this strategy calls for researchers, institutions, and companies from the less developed countries of the EU to be better integrated into the efforts being made in relation to personalized medicine, thus ensuring that patients in the EU’s less-rich areas and Member States can also benefit—and quickly—from the development of these new medical innovations and strategies.

A key element of policy is that, through real-world evidence, it will be possible to encourage healthcare systems to pay particular attention to patient values, while flagging-up recommendations on how to include an understanding of these values into regulatory settings.

## 8. Strategies for Political, Social, and Educational Engagement

Education—that is, disseminating information in terms of the innovations achieved through the use of Big Data analytics, the promotion of personalized medicine, and other initiatives—is crucial and should constitute an essential principle underpinning any EU future initiatives related to healthcare.

For example, in relation to HM, critical deficiencies in how much knowledge and awareness about the work being carried out by still exists among healthcare professionals, policy-makers, and patients, and thus the single most crucial strategy that will ensure the enduring legacy of such initiatives is to increase the range of communications tools, materials, and strategies that are in use, and to educate the public, decision-makers, and all stakeholders and researchers about the innovative nature of the efforts being made in terms of transforming not only HM care but healthcare in general.



The attainments of the current communications strategies must be consolidated and new, concrete materials that transmit specific information on the achievements so far and what is envisaged for the future must be created. Education, that is, the dissemination of critical information, will only be achieved by communication and specifically on the ground-breaking changes and initiatives that have taken place so far.

There is a need to increase literacy by developing educational materials and tools tailored for healthcare professionals, healthcare policy-makers, healthcare payers (including insurance agencies), regulatory agencies, patients and other relevant stakeholders.

For example, HARMONY's educational/communications policy requires that it will engage with the rotating presidencies of the European Union. The current presidency is Romania (first six months of 2019), with Finland taking over on 1 July 2019, followed by Croatia on 1 January 2020.

Ongoing discussions with the European Parliament and the EU Commission are key, as is collaboration with patient groups, the European Medicines Agency (EMA), representatives at the national level, and all other relevant stakeholders. Many members of the European Parliament are knowledgeable and active in the fields of cancer and information technology (IT). Continuing engagement with parliamentarians, such as those championing the treatment of childhood cancers, is a policy priority.

Tools that have been utilized to great effect are high-level roundtable discussions, conferences, press briefings, video interviews, newsletters, social media tools, websites, and more, alongside one-on-one meetings.

## 9. The Role of the European Union and of Legislation

The Member States of the European Union (EU) are responsible for organizing and delivering health services and medical care. The EU has become more engaged in healthcare through legislation on cross-border healthcare, clinical trials, medical devices, data protection and, more recently, health technology assessment (HTA).

In general, EU health policy serves to complement national policies and to ensure that the protection of health is a priority reflected in all EU policies. It also aims to protect and improve the health of EU citizens, support the modernization of health infrastructure, and improve the efficiency of Europe's health systems.



Strategic health issues are being discussed by representatives from national authorities and by the European Commission in its senior-level working group on public health. EU institutions, countries, regional and local authorities, and other interest groups contribute to the implementation of the EU's health strategy.

## 10. The Impact of Improving Health Technology Assessments

It is critical that any changes to healthcare systems and programs are based on evidence and valid data, and that they are evaluated appropriately. It is in this context that Health Technology Assessment (HTA) bodies will play and are playing a critical role the EU's ever-evolving healthcare policy. HTA play a critical role in that they are required to systematically and transparently evaluate the scientific, financial, organizational, ethical, and social impact of any interventions and policies, thus informing decision-making. Improvements to the ability of EU countries to more quickly assess the new health technologies that have put into place is crucial, because such a move will facilitate the provision of improved care to patients and will protect health budgets by eliminating waste.

Defects in the current systems for assessing new technologies have left citizens across the EU suffering from an innovation gap in relation to the healthcare they receive. The present system leads to delays and inconsistencies in assessing new technology and hinders the ability of healthcare professionals to implement invaluable innovations that would transform their ability to treat their patients. The problem arises because the dozens of national and regional assessment methodologies and approaches across Europe differ widely and deliver diverging and inconsistent results, leading to the provision of sub-optimal care to patients. The lack of systematic sharing of expertise also means that assessments are not always as accurate or comprehensive as they should be and could be.

At the same time, Member States, by duplicating their efforts and programs, are wasting crucial financial and human resources on conducting similar tasks related to medical research and treatment. Making HTA more effective can lead to the elimination of out-of-date treatments, as well as introducing more effective ones. In light of these findings, the EU Commission has called for mandatory joint action on HTA. This has been backed by the EU Parliament and should form the cornerstone of any new innovations. The proposal for greater coordination of HTA has generated a little unease in some quarters, but progress is, as everyone involved admits, necessary for the benefit of European patients and citizens.



Given that HTA is currently a big issue (as it always will be, given its importance in improving patient to the best treatments available), policy-makers should bring recommendations to HTA bodies on how to integrate patient values and patient-defined outcomes into any discussions. Because time frames play a crucial role in this process, various experts and analysis are looking at the idea of setting time limits on the approval of pharmaceuticals after the EMA has licensed a drug. It is a demonstrable fact that smaller countries tend to be the last to initiate the process of approving drugs. Meanwhile, a policy allowing smaller countries to access the information emerging from clinical trials (and even to participate in these trials) that are taking place in larger ones should be established, but on the basis that agreement is reached with pharmaceutical companies.

## 11. The Relevance of the European Semester Process and Pan-European Engagement

Since its inception, HARMONY's work, carried out with achieving a pan-European impact, has been based on and benefitted from the participation and input from European key opinion leaders, decision-makers, and policy-makers. It is crucial that this engagement be encouraged in terms of other projects so that the policies being promoted in the European Parliament and elsewhere be continued on a pan-European basis.

European Semester: The Annual Growth Survey of 2016 calls for, among other things, for improvements in the integration of care by means establishing and enhancing up-to-date information channels. Country-specific reports advocate ways of delivering cost-effectiveness and growth and should be disseminated among all the countries and stakeholders involved in any initiatives.

Country profiles contain a section on eHealth and they enable the mapping of telemedicine needs at the national level to take place. Legal studies have shown that information is available from electronic health records, but clear indicators for the deployment of digital services need to be defined. Meanwhile, new technologies, medical appliances, and diagnostic techniques require the development of technical know-how in addition to the dissemination of clinical knowledge and new ways of working. Further steps should be identified and implemented.

Health literacy empowers citizens and patients, giving them the requisite knowledge, they need that will enable them to get involved with their own treatment and manage their health; such empowerment has a significant impact on the level of costs for medical interventions.



## 12. Conclusions: Looking to the Future

Harnessing Big Data, implementing personalized medicine approaches, seeking out real-world evidence and ensuring education in hematology among healthcare professions will ensure that the immense burden of HMs can be reduced, and provides a model for replication for future medical initiatives to be undertaken by the EU. These policies are having and will have a significant and positive effect not only on costs, but also on the quality of life of HM patients and the support given to those suffering from these diseases. There is no question that these policies can transform EU healthcare as a whole.

Investing in health can lead to smarter spending that brings savings and secures better health outcomes. Transformation can take many different forms, such as changes to the management of care to improve efficiency while improving health outcomes; investment in healthcare staff; and training or equipment and initiatives to promote good health and prevent diseases. A critical component to all of HARMONY's efforts and strategies is patient empowerment, and so ongoing developments in the HTA debate will continue to be closely watched. Meanwhile, the ongoing transformation of HM treatment has powerfully demonstrated the case that reform, and investment should be addressed as part of structural reforms within the context of the incoming Europe 2020 and the ongoing European Semester. The blueprint for transformational change to the treatment of HM and other medical conditions exists; what is needed for the design to be completed and delivered is continued support—financial and political—across European institutions and countries.





# Interested in the HARMONY White Paper?

Send an email to:  
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## Are we singing from the same song sheet?

We value opinion – please help us prioritize these 10 policy recommendations!  
Rank from 1 – 10.

- Blood disorders are not only a burden for patients, but also for society as a whole, with about 80 million people having either malignant or non-malignant hematological disorders. We need to urgently step up how Europe tackles this.
- Policies and strategies must encourage medical expertise and experience to transcend national borders, thus streamlining the dissemination of medical innovations and of the introduction of new treatments to counter-balance ever-increasing financial burdens posed by rising healthcare costs.
- There is a need to increase literacy by developing educational materials and tools tailored for healthcare professionals, healthcare policy-makers, healthcare payers, regulatory agencies, patients and other relevant stakeholders.
- Europe needs to harness the enormous potential of Big Data and related analytics to deliver insights into how the care of patients with blood cancers can be improved.
- The EU needs a coordinated Big Data approach across its relevant projects to ensure strategic alignment and consistency and to define new business and health funding models that will allow for healthcare systems' transformation.



- It is critical that any changes to healthcare systems and programs are based on evidence and valid data, and that they are evaluated appropriately while avoiding duplication.
- Europe needs value-based assessment tools that focus on patient outcomes, on values and preferences, and on societal value, thus enabling the perspectives of patients to be taken into account.
- Consistent patient involvement is key, because personalized medicine in hematology enables healthcare to move away from “trial and error” therapies to evidence-based individual approaches. Healthcare is enhanced when patients are involved in their own treatment.
- When aiming to streamline and innovate healthcare, EU leaders and decision-makers must enhance cooperation and collaboration among stakeholders, engaging politically, socially, and academically with all able contributors.
- The EU needs researchers, institutions, and companies from the less-developed Member States to be better integrated into the efforts being made in relation to personalized medicine, thus ensuring that patients in the Europe’s less-rich areas can also benefit from the development of new medical innovations and strategies.

Mail your ranking to: Ellen de Waal, HARMONY Communication Manager | [e.dewaal@ehaweb.org](mailto:e.dewaal@ehaweb.org)



## About the HARMONY Alliance

A public-private European Network of Excellence for Big Data in Hematology, established in January 2017. Our mission is to unlock and spread valuable knowledge on hematologic malignancies (blood cancers) among a large number of stakeholders, with the goal to harness and mine Big Data to speed up the development of improved treatments for patients and more effective treatment strategies.

HARMONY currently has 53 Partners and 35 Associated Members from 22 countries. HARMONY is funded through the Innovative Medicines Initiative (IMI), Europe's largest public-private initiative aiming to speed up the development of better and safer medicines for patients.

HARMONY has received funding from IMI 2 Joint Undertaking and is listed under grant agreement No. 116026. This Joint Undertaking receives support from the European Union's Horizon 2020 Research and Innovation Programme and the European Federation of Pharmaceutical Industries and Associations (EFPIA). IMI supports collaborative research projects and builds networks of industrial and academic experts in order to boost pharmaceutical innovation in Europe.



## More information

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