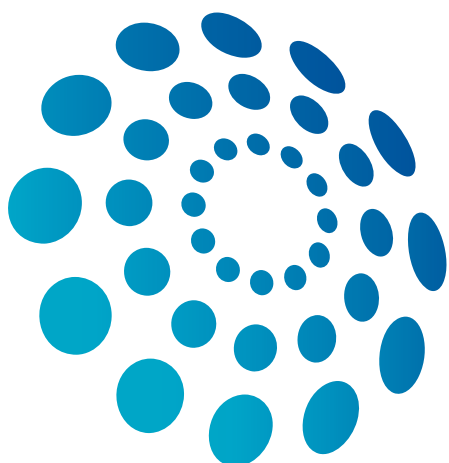




4th CONFERENCE ON



European Reference Networks

CONFERENCE
REPORT

21–22
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*Health and
Food Safety*

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Executive summary

Health professionals, researchers, patient organisations and policymakers gathered in Brussels on 21 & 22 November for the 4th European Reference Networks Conference. The well-attended and lively event featured two full days of presentations and debate, driven by plenary sessions and eight parallel workshops.

The 24 ERNs launched in Vilnius in March 2017 are designed to connect European experts in rare diseases. Approximately 30 million European citizens are affected by rare diseases. They face major challenges in diagnosis, treatment and care of their rare and complex conditions. ERNs are virtual networks that use a bespoke IT platform and telemedicine tools to review patient cases with their consent. Where possible, they ensure that information travels rather than the patient.

The event highlighted progress to date in establishing the networks and discussed challenges and opportunities that lie ahead as the ERNs develop. The networks now connect 900 healthcare units in 313 hospitals across 26 countries. More than 250 patients have directly benefited from virtual consultations by the network and this number is expected to grow.

The conference focused on the need to consolidate the networks and examined some of the challenges that lie ahead. One of the priorities for 2019 is the integration of ERNs into national health systems. The role of Member States and hospital managers will be central in this regard, and both parties were well represented at the event. Improving the geographic coverage of the networks was a recurring theme: the networks have very strong representation from high GDP countries but less participation among lower GDP Member States as the smaller population countries will, due to their size, see a smaller number of rare or highly complex cases. A new call for affiliated members may help to redress the balance.

The potential of ERNs in developing clinical guidelines for rare diseases was under the spotlight. Work is under way to map existing guidelines and to explore how ERNs can help to fill gaps where no guidance is available. The Commission will support this through a tender on the development of clinical practice guidelines which was launched this month.

The ERN Clinical Patient Management System was a hot topic. Participants emphasised the value of the platform as well as the need to ensure data protection. Data was also central to a discussion on the role of ERNs in building patient registries for rare diseases. The JRC is working with the networks to advance the use of registries and to establish common approaches to collecting, coding and storing data.

Several sessions addressed the long-term sustainability of the ERNs. Challenges include funding, awareness among patients and health professionals, support from hospital managers, and the limited human resources available to work on ERN-related initiatives. Given the limited pool of experts in rare diseases, there is a heavy burden on active ERN leaders. There is also a need to develop an interest and expertise in rare diseases among younger health professionals.

There was a strong sense of support for ERNs which are viewed as an example of how European cooperation can add value for vulnerable citizens. As Commissioner for Health and Food Safety Vytenis Andriukaitis stated in his speech: "Expertise is being shared, developed, and expanded across Europe – increasing the capacity of specialists and health care and cure systems. We have to believe in our success and continue to work in our cooperative spirit."

Introduction

The 24 European Reference Networks (ERNs) launched in Vilnius in March 2017 are now operational. Designed to connect European experts in rare diseases, the networks are an EU success story. The 4th ERN Conference – *ERNs in Action* – was an opportunity to examine the state-of-play, explore challenges facing the networks as they enter the deployment phase, and look ahead to their future development. The two-day event attracted clinicians, patients, policymakers, hospital managers, and representatives of EU Member States.

Approximately 30 million European citizens are affected by rare diseases. They face major challenges in diagnosis, treatment and care of their rare and complex conditions. ERNs are virtual networks that use a bespoke IT platform and telemedicine tools to review patient cases. Where possible, they ensure that it is the information that travels, not the patient.

Welcoming participants to the event, **Maggie de Block, Minister of Health, Belgium**, said the dawn of the 21st century was a turning point for people with rare diseases. She pointed to incentives for orphan medicines, collaboration between Member States on horizon scanning and negotiating with pharmaceutical companies, and the launch of the ERNs. 'We now have 24 networks delivering added value for patients with rare diseases,' Ms de Block said. 'I am proud that 68 teams from 10 hospitals in Belgium are playing active roles in ERNs.' She said the capacity of ERNs to concentrate expertise presented new opportunities for collaborating on treatment guidelines, clinical trials and improved patient care. Ms de Block emphasised the role of Belgium's National Plan for Rare Diseases and Orphan Drugs (2013) in laying the foundation for engaging with ERNs. 'We will continue to support the work of the networks and the new opportunities they provide to improve the lives of patients significantly.'

Anne Bucher, Director-General of DG SANTE, compared ERNs to innovative start-ups with vast clinical and research potential. She described the networks as a flagship health project for the EU, highlighting the value they bring to patients through cross-border collaboration. The 24 ERNs already connect 900 healthcare units in 313 hospitals across 26 countries. More than 250 patients have directly benefited from virtual consultations by the network and this number is expected to grow.

24 ERNs

>300 hospitals
26 countries
900 healthcare units

After 18 months in operation, the networks are now in a consolidation phase. Member States and hospital managers will play a central role in integrating ERNs into national health systems, Ms Bucher said. There is also a need to improve the geographic coverage of the networks to ensure all European citizens with rare diseases have access to their expertise. The sustainability of ERNs will be dependent on improving awareness among physicians and patients; establishing clear patient pathways from primary care to the networks; and securing financial and administrative support. There was still some work to do to embed ERNs in health systems, but the effort would be worth it, Ms Bucher said, reminding attendees of the primary motivation for establishing the networks: 'We are here because we are convinced that no single country can do this alone.'

Round table I

State of play of the ERNs: setting up the system

Chair: Martin Seychell, DG SANTE

ERNs are not a finite project of three-to-five years; they are an initiative supported by legislation, intended to be a long-term feature of EU support for patients with rare diseases. This was highlighted by **Andrzej Rys, Director, DG SANTE**, and **Co-chair of the ERN Board of Member States (BoMS)** and of the coordinators group, who traced the origins of the networks from the adoption of the Cross-Border Healthcare Directive in 2014. 'We are not a project – we are an organisation,' he said.

A major body of work was completed in the subsequent years, including the design of the networks, development of assessment tools for designating ERN members, and launch of the 24 networks in 2017. 'We are now in the implementation phase,' said Mr Rys. '2019 and 2020 will focus on consolidating the networks, followed by evaluation in 2021.' The ERNs are increasing the number of patients reviewed virtually, exploring training and education opportunities, devising and implementing clinical guidelines, developing research priorities, and collaborating with patient organisations. Improved communication with hospital managers, work on disease registries, and expanding geographic coverage are among the priorities for the future.

'We are not a project – we are an organisation'

Andrzej Rys, Director DG SANTE

Till Voigtländer, Austrian representative and chair of the ERN BoMS, addressed the current imbalance in Member State participation in the networks. High GDP Member States tend to have stronger participation, but the disparity is not simply determined by economic development. Overall, there is very strong participation from Italy and the UK, as well as France and Germany. Individual networks also have disproportionate participation of certain countries. For example, in one ERN, 21 of the 66 members are from Italy. Central to redressing the imbalance is the designation of new ERN members and affiliated partners. Affiliated healthcare providers will not be full members of the network but will have access to ERN expertise, helping to improve patient care and develop local clinical practice.

The BoMS has established working groups to address a range of other ways in which ERNs need support. In future, evaluation and quality improvement measures could play a role in refining the composition of the networks. The development of indicators and of an IT system for continuous monitoring will help to add rigour to this process.

Ethical aspects of ERN cooperation with third parties have been addressed through a statement on how the networks interact with industry. However, ERN coordinators said this required further elaboration, prompting the BoMS to task a specific working group with developing a more detailed publication which will be available soon. Mr Voigtländer said seamless integration of ERNs into the national healthcare system was a key challenge for the future, along with establishing financial sustainability. €1 million per ERN is available for network coordination over a five-year period. In addition, the future EU Multiannual Financial Framework could offer new opportunities for funding; support from industry may help to fund registries; and several funding streams are available for research-related activities of ERNs, including through Horizon Europe, the Innovative Medicines Initiative, and the European Joint Programme (EJP) Co-fund on Rare Diseases.

The pivotal role of ERN coordinators was a recurring theme at the conference. ERNs are led by experts in their field who provide knowledge and clinical guidance, as well as being central to the development of ERNs, guidelines, registries and training schemes. While there is some financial support for this work, the administrative burden in the start-up phase has been heavy, requiring clinicians to work on ERNs in their own time or with the support of their hospitals.

Franz Schaefer, Co-Chair of the ERN coordinators group and coordinator of ERN ERKNet, outlined some of the networks' achievements in their first 18 months and offered his view on the road ahead. For example, by adopting and developing clinical guidelines and best practice, ERNs are harmonising rare disease management across Europe, as well as laying the foundations for improved monitoring of patient outcomes and working on registries.

Connecting hospital managers

Several speakers highlighted the role hospital managers can play in supporting ERNs. **Eve Parier, CEO Hôpital Saint Louis, Paris**, said the networks can bring benefits to hospitals and that management should integrate them into their operations. Their research capacity is a potential contributor to hospitals, particularly as Europe competes with the US and Asia to attract clinical trials.

'ERNs also offer visibility for hospitals, showing our leadership role and highlighting hospitals' position as centres of excellence,' she said. The networks attract expertise and resources, accelerate digital transformation in healthcare, promote best practices, and offer access to inter-professional consultation.

Hospital managers can support ERNs in several ways, notably thorough financial and administrative support. An ERN Working Group has been established to connect hospital leadership. This will provide a forum for sharing experience. A meeting for hospital managers in May 2019 is anticipated.

The networks are also well placed to promote research and innovation, along with training healthcare professionals in disease management. Several ERNs have begun systematically reviewing existing guidelines in their field. ERN ReCONNET, for example, has already published a review of the current evidence base. ERKNet has screened 158 renal disease guidance and endorsed 41, with summaries and comments made available through the network's public website. The next challenge will be to develop new guidance to fill gaps. This may be done in collaboration with professional societies that have established systems in place for guideline development. Working with patients to map their journey through healthcare systems will lead ERNs to develop descriptions of the patient pathway. ERN Genturis is one network that has already begun work on this, Dr Schaefer noted.

Online tools

ERNs are having an impact on medical education by organising Continuing Medical Education (CME) courses and hosting webinars. The experience of ERN ERKNet and ERN ITHACA illustrate how webinars can be used as a cost-effective means of distributing knowledge. ERKNet runs webinars every two weeks, attracting between 100 and 150 people per live session, as well as a further 150 to 200 downloads of the recorded event. 'This is a very efficient way of educating specialists in rare diseases,' Dr Shaefer said. A new grant from the European Commission's Connecting Europe Facility (CEF) will support the development of eLearning platforms. Some ERNs have also dedicated resources to fellowship exchanges, although funding limitations can make this challenging.

The Clinical Patient Management System (CPMS), an online platform for virtual consultations, has the potential to spare patients the burden of cross-border travel. Several data protection challenges have been overcome but data entry remains time-consuming and, while uptake is increasing, it has been slower than anticipated. There are also logistical challenges and scheduling related to arranging virtual meetings of multiple experts. Dr Shaefer said the system should be advertised to ERN members and to centres outside the networks who could benefit from expertise. In the long run, a reimbursement system should be considered to reward clinicians for sharing their time and expertise.

Expanding the ERNs could help address geographic ‘gaps’ in the networks, said Dr Shaefer, but selection standards should remain high to maintain quality. ‘We should welcome new partners – either full members or affiliated partners – while avoiding operational challenges, particularly given the so-far unchanged coordination budgets.’

Patient perspectives

ERNs were created to support patients. From the outset, network leaders have been determined to include patients and patient representatives. For rare diseases, this can be a challenge because patient groups are often not as well organised as for common chronic conditions. EURORDIS, the European rare diseases organisation, help been central to ensuring that the patient voice has been heard.

Yann Le Cam, Chief Executive Officer EURORDIS, said that clinicians’ experience with rare diseases is limited, making patient experience even more important. In 2016, EURORDIS established 24 European Patient Advocacy Groups (EPAGs), mirroring the themes of the ERNs. ‘As patients, we are not the clients of health services; we are a full part of coproducing knowledge and solutions,’ said Mr Le Cam. ‘The EPAGs were created to ensure solidarity, inclusivity and democratic representation. They allow meaningful involvement of patients and ensure that the networks are patient-centred.’

‘European Patient Advocacy Groups ensure solidarity, inclusivity and democratic representation’

Yann Le Cam, EURORDIS

There are now 300 patient representatives involved in ERNs, about 60 % of whom are EURORDIS members from across Europe. These advocates represent the wider patient community, creating a bridge between the ERNs

and citizens. They contribute at strategic level, shaping the development of ERNs, and through their engagement with disease-specific networks. EPAG members are empowered through face-to-face and online training to help to maximise their impact when working with the networks.

All 24 ERN governing bodies include patient representatives, ensuring a cultural shift in how clinicians and patients collaborate on rare and complex diseases. EPAGs are vital to identifying gaps and unmet needs in terms of educational resources and clinical practice guidelines. They hold important information on healthcare pathways and bring outside expertise to the networks. ‘Patient representatives are parents or patients, but they are also engineers, business people, consultants – experts in other fields,’ Mr Le Cam said.

Looking ahead, the challenges for patient involvement in ERNs lies in identifying where patients can be most effective. Priority areas for the future include defining health outcomes and indicators, developing a common patient feedback mechanism, and ensuring access to the networks for as many citizens as possible.

Discussion

An EPAG member from Italy highlighted the need to cater for patients transitioning from paediatric care to adult care. They also stressed the need for integration of ERNs into national health systems. The variety of health system models across Europe will present challenges, they said. A Member State representative acknowledged that integration is a key challenge and would be dependent on how well developed national and regional systems are. One way to encourage authorities to think about how to embrace ERNs is to push for the update of national rare diseases plans to reflect the role of the networks.

The geographic imbalance was the focus of several comments, with one contributor noting that the gaps in the network are largely due to low participation from post-communist Member States. Lower levels of investment, expertise and patient advocacy are typical in lower-GDP countries, it was suggested. Representatives of the BoMS are willing to visit Member States to share their experience of how to integrate ERNs into health systems, it was noted.

A patient representative commended the European Commission and Member States for the ambition that drives the ERNs but warned that there are 'signs of strain' in the system. They cautioned against moving too fast in case key experts resign from networks due to the demands they face.

Language was highlighted as a potential barrier to progress. Translation from English into local languages may be required to facilitate better engagement from healthcare providers and participation of patient advocates. Clinical guidelines should be made available in several languages to ensure uptake.

- ERNs have moved from start-up phase to consolidation
- Embedding ERNs in national health systems is a priority
- Affiliate membership can help redress geographic imbalance
- ERNs are patient centred: 24 European Patient Advocacy Groups have been established

Round table II

Tools and resources for deployment

Chair: Lennart Christiansson, Swedish representative, ERN BoMS

One of the main tools underpinning the work of ERNs is the Clinical Patient Management System (CPMS) – a secure, online environment that facilitates virtual consultation and expert collaboration. A great deal of work has been invested in developing and fine-tuning the system, and efforts to refine the platform are ongoing. **Prof Ruth Ladenstein, coordinator ERN PaedCan**, said major progress had been made since the release of the first version of the CPMS in November 2017. She highlighted the development of a glossary of terms for CPMS processes, agreement on generic common data elements, and the single referral and workflow process. ‘It’s a very clear system,’ Prof Ladenstein said. ‘The CPMS guides you through the required sections, allowing you to complete the consultation form based on patient information, family history and details of their disease.’

How to access the CPMS

Caroline Paquier ERN IT project coordinator, DG SANTE, outlined the four steps healthcare professionals must take to access the CPMS.

- Create an EU login
- Request access to the platform
- Completing training in how to operate the system
- Begin using the system

Webinars and user manuals are available to support users in getting the most from the CPMS. More than 1,000 users are now registered in the system, 674 of whom have logged on at least once. Each month, approximately 200 users log in and this is increasing on a monthly basis. As of October 2018, 267 cases had been created; 89 of these have been closed or archived.

Several improvements have been introduced in the first year of operation, including greater workflow flexibility, activity reports for ERN coordinators, and a facility that allows urgent cases to be flagged. Forthcoming advances include improvements to the medical viewer tool, the ability to generate PDF documents, and collaboration with hospitals on data exchange.

Prof Ladenstein outlined the CPMS workflow, beginning with patient enrolment and consent to their data being shared across borders. The second part centres on the assessment based on pseudonymised data. Once a conclusion is reached, the final step is to close the case and, where appropriate, transfer anonymised data to patient registers or for research. ‘The CPMS is an excellent tool with high potential for the future,’ she said. ‘The Commission has been very responsive to the needs of ERNs in developing a platform that allows us to view medical images and to communicate in real time.’ The next step is for Member States to fully embrace the potential of virtual consultations and to support healthcare professionals using the system.

Finance and support

The need for funding was raised throughout the conference. **Stefan Schreck, Head of Unit, DG SANTE**, explained some of the funding streams available to the networks. He noted that, in addition to the Health Programme, health initiatives can apply for support from social protection, research and innovation, digitisation, cohesion funds, amongst others. The new EU Multiannual Financial Framework (2021-2028), referred to as the EU budget, is currently under negotiation between the European Parliament (MEPs) and the European Council (Member States). It proposes to include the health strand in the European Social Fund Plus (ESF+) which has an overall budget of € 101 billion. While the proposed budget earmarked for the Health Programme is €413 million, a total of €3.8 billion is invested in health-related activities, along with a further €500 million allocated to active and healthy ageing.

Spreading the word

Raising awareness among the healthcare community is essential to advancing engagement with ERNs. **Roser Domenech, Head of Unit of Communication, DG SANTE**, said the Commission views ERNs as a success story. She presented the Information Toolkit and addressed future plans for informing the public about the networks.

The Commission is preparing background press material, visuals and social media content. A new introductory video explaining the ERNs has also been created. A media seminar at the Leuven University Hospital has helped to generate press coverage by connecting journalists with patients, doctors and ERN coordinators.

Since the launch of the ERNs in 2017 the campaign has reached:

- 127,000 social media accounts
- 490,000 views of the promotional video
- 100,000 visits to the ERN section of the Commission's website

ERNs will also feature in a new European Commission campaign entitled *EU Protects*.

'In fact, most investment in health does not come from the health strand of the EU budget, it comes under other budget headings,' he said. The budget for Horizon Europe, the EU research programme, may be of interest to ERNs. It can finance health-related research projects, digital initiatives and it supports the JRC which actively contributes to the development of rare disease registries.

Discussion

The Q&A session focused largely on the CPMS with several questions relating to data protection. These include data ownership and lack of data interoperability between hospitals, even within Member States. Commission officials said they are working with data controllers to ensure clarity and will share information early in 2019. Regarding non-ERN members, it was noted that health professionals from outside ERNs could access the platform as guest members, allowing them to see pseudonymised data only. The steps for applying and training are the same as for members.

A health professional highlighted the limited time and resources available to clinicians who need to invest time to learn how to use the CPMS and to upload and review material. They asked whether the EU budget could find tangible ways to support health professionals. In response, a Commission official said European funds could support ERNs in several ways but could not pay for patient treatment as this is a Member State competence.

Regarding communication about the work of ERNs, a participant asked whether there was a policy on partnering with industry on activities such as medical education and guideline dissemination. In addition to work on ethical interactions with industry by the BoMS, a Commission official said EU agencies participate in industry events but tends not to add its logo next to that of a company.

Another questioner complained about the red tape associated with cross-border treatment of patients, particularly when seeking reimbursement for expenses. The bureaucracy can be so challenging that patients sometimes do not complete it, meaning that only higher-income patients can travel for care. A panellist said the goal of ERNs is to 'move knowledge before moving patients', adding that several Member States are exploring how to use the networks to make consultation easier in cases where patients need treatment outside their Member State of residence.

- The Clinical Patient Management System is up and running.
- Several improvements have been made since launch; more are planned.
- The EU budget offers several potential funding streams for ERNs, including through the health, research, cohesion, digital and social strands.

Round table III

The EU political and institutional commitment to the ERNs

Facilitator: Martin Seychell

The support of EU institutions is critical to the longevity of ERNs. In this session, representatives of the European Commission and the European Parliament reaffirmed their commitment to the networks. **Vytenis Andriukaitis, European Commissioner** with responsibility for Health & Food Safety, reflected on the inspiration behind the ERNs and their mission to meet the needs of patients who would otherwise spend years ‘in the dark’ searching for a diagnosis and treatment. He echoed earlier calls for ERNs to be integrated into national health systems and said he has spoken to national health ministers and ERN leaders about this. ‘I am fully aware of the complexities of the work that ERNs do, and I confirm my readiness to overcome the challenges that lie ahead,’ he said.

‘We need to address future challenges through the three Cs: cooperation, coordination and collaboration’

Vytenis Andriukaitis, European Commissioner

In a passionate speech, Commissioner Andriukaitis highlighted the potential of ERNs in knowledge generation and dissemination; defining patient pathways and clinical guidelines; building interoperable registries; and conducting research. ‘ERNs open doors for the development of a broader ecosystem that can build synergies for other activities in future,’ he said. ‘ERNs could be the backbone around which clusters of cooperation develop.’

The Commissioner congratulated ERN participants in getting the networks up and running, adding that the focus must now be on ensuring their long-term sustainability. ‘We need to address future challenges through the three Cs: cooperation, coordination and collaboration,’ he said.

Cristian-Silviu Busoi, Member of the European Parliament, thanked the Commissioner for his ‘energy, passion and conviction’ in supporting the ERNs which Mr Busoi described as ‘a concrete way to benefit European citizens’. As a member of the European Parliament’s ENVI Committee, which is responsible for health, he highlighted some of the ways that EU funding can help ERNs to flourish. Mr Busoi is the ENVI rapporteur for the European Society Fund+ and works on developing the Horizon Europe research programme. These funding streams, along with Connecting Europe, should support ERNs, he said.

Horizon Europe would introduce the concepts of ‘missions’ which present opportunities to focus on a handful of major challenges facing European citizens. ‘I have supported a mission on eradicating paediatric cancer by 2040,’ he said. ‘If Parliament and the European Council approve it, I believe this could be one of the first missions funded through the next framework programme for research.’

Further support for ERNs from the European Parliament was illustrated through a video message from **Françoise Grossetête, Member of the European Parliament**. She said that she frequently cites ERNs as a prime example of how European cooperation can deliver in health. ‘ERNs are a very good example of progress made possible by eHealth tools which allow joint work across borders,’ she said. ‘This is a true step forward.’

Ms Grossetête said she was aware that challenges lie ahead and that collaboration in large networks is not an easy task. She encouraged ERNs to work together to overcome logistical obstacles and urged conference participants to recognise the progress they have made to date: ‘We should not shy away from acknowledging the successes of ERNs, thanks to your efforts,’ she said. ‘Our mission is only beginning.’

Discussion

The discussion began with a comment from a patient representative who asked that the contribution of UK-based network coordinators be acknowledged for the 'vision, courage and drive' they contributed to making six of the 24 ERNs a reality. This prompted a round of applause and words of appreciation from the Commission.

- The European Commission is strongly committed to ERNs.
- MEPs view the networks as a European success story.

Other participants highlighted the need to attract trainee clinicians to the field of rare diseases, asked about funding for nutrition education, and how Member States can tackle the high cost of new medicines. Panellists noted the limitations of EU legal competence in health and said Member State collaboration on negotiating with pharmaceutical companies has been explored by subgroups of countries.

Round table IV

ERNs' Main challenges for the future

Chair: Ioana Gligor, Head of Unit DG SANTE

The immediate challenges facing ERNs, as well as their longer-term sustainability, were addressed by several speakers in this roundtable. There was broad agreement that the networks must be consolidated, embedded in national health systems, and sustainably funded. The pressure on a relatively small number of leading experts was a recurring theme, with concerns raised about the need to protect the time of key clinicians who are tasked with leading networks, developing registries, formulating clinical practice guidelines and training others. There was also discussion of how to balance the goal of geographic coverage across EU Member States with the challenges of managing growing networks.

Matt Bolz-Johnson, EURORDIS ERN and Health Advisor, began on a positive note: 'It feels like ERN members are now a real community – not just a group of individual networks. Today is the first time I've had that feeling.' He said ERNs are a new and innovative approach to patient care, representing a paradigm shift in how services are delivered. All systems are inclined to self-preservation, he said, and overcoming this inertia would be a challenge for the networks. 'We need to nourish and support ERNs with resources, capacity and time; we need to put the spotlight on them and to showcase them,' he said. 'At the same time, we need to maintain the current dominant system so that there are no gaps as we move to a new way of working.'

'ERn members are now a real community – not just a group of individual networks'

Matt Bolz-Johnson

Addressing the immediate challenges facing networks, he said the networks had largely been built on goodwill of participants. In the interest of business continuity, it is important to ensure resources are available and to support the small number of members who carry most of the burden of ERN activity. Mr Bolz-Johnson said approximately one third of ERN members are 'hyperactive', another third is moderately active, and the remainder does very little. He added that an independence multi-stakeholder advisory body is required to give strategic direction to ERNs and to drive their integration into national health services.

'ERNs are here to stay'

The perspective of hospital leadership was provided by **Ernst Kuipers, CEO Erasmus Universitair Medisch Centrum, Rotterdam**. He sounded a positive note, celebrating the potential of ERNs to improve the lives of thousands of people in the EU and beyond. 'We speak about challenges of ERNs, but I am a strong believer and supporter of the relevance of these networks,' he said. 'The impact of a single rare condition is limited but we are talking about 6,000 to 8,000 conditions with high morbidity and mortality.'

Looking at some of the issues ERNs must address in their next phase of development, Mr Kuipers highlighted some diseases which are not yet covered by the networks and pointed to the lower level of participation among countries in southern and eastern Member States.

Supporting their expansion would require sustainable resourcing: 'ERNs are here to stay so we need to think about business continuity,' he said. '€200,000 per year is insufficient if we want networks to manage 69 centres across Europe. We should think instead of increasing the budget and making it five-year funding instead of an annual allocation.'

Looking to the longer term, Mr Bolz-Johnson said sustainable political and funding support would be needed if ERNs are to meet their full potential and address the expectations of citizens. Collaboration with industry and the role of public-private partnership in some network activities should also be discussed.

Helena Kääriäinen, Finnish representative at the ERN Board of Member States, highlighted some operational issues that networks will need to address in the near future. These included deciding whether to focus on an entire field or to prioritise a subset of diseases; whether to concentrate on patient consultations or creating registries; to find ways for Member States to participate in ERNs that best suit their needs; and to explore how they can reach the whole healthcare system through national networks.

She said ERNs will need to demonstrate their value to health system by, for example, illustrating how they can shorten the diagnostic odyssey and save on overall care costs. 'Hospitals in Member States are willing to fund the active participation of centres of excellence in ERNs if they can provide evidence that patients, as well as healthcare systems, really benefit from the networks,' Ms Kääriäinen said. Demonstrating their work is of high quality and preserving trust in ERNs will also be paramount.

She encouraged participants to have realistic expectations. It might be too optimistic, Ms Kääriäinen suggested, to imagine that all rare disease patients would have access to ERNs. In practice, not all conditions are catered for and only a small number can benefit from virtual consultations.

Alberto Pereira, coordinator ERN ENDO, offered the view of a network leader. He reminded participants that the primary incentive for launching the ERNs was to link expertise, health professionals and patients, with a view to reducing health inequalities in the EU. A great deal of work has gone into establishing the networks, he said, much of it on a voluntary basis by healthcare professionals and patient advocates.

The CPMS is an excellent tool for virtual care but it would be naïve to expect the system to abolish disparities in access to care across Europe. 'However, virtual consultations will remain considerably cheaper than physician cross-border referral,' Dr Pereira said. 'Member States should adopt a 'CPMS first' policy in order to save resources.' Finding ways to reimburse specialists for the time they devote to virtual consultation remains a challenge. It could be done through pre-defined price agreements which establish reimbursement rates for patient care. Dr Pereira suggested a more elegant approach would be for EU-based health funds to be used to ensure that lower-GDP countries have an incentive to embrace ERNs.

Pierre Fenaux, coordinator ERN EuroBloodNet, addressed some of the practical issues that have arisen during the first 18 months' experience with a network. He said there is a low level of awareness of the procedures to follow when applying for care through the Cross-border Healthcare Directive. Member States do not take the same approach to reimbursement of care and travel costs. Dr Fenaux highlighted a pilot project on cross-border care for patients with sickle cell disorders who needed bone marrow transplantation (BMT). Ireland, where experience with sickle cell disorders is low, reached agreement with a centre in Italy to have BMT at no cost to the patient. 'It was a very pragmatic way of dealing through hospitals rather than individual cases,' he said.

In education, ERN EuroBloodNet is working with the European Haematology Association and European School of Haematology to identify – and address – gaps in curricula. Their goal is to improve education on rare blood disorders among clinicians, nurses, laboratory staff and patients. However, language barriers are a challenge and translation of existing international material is required.

Other challenges highlighted by Dr Fenaux included the need to avoid relatively simple clinical cases overwhelming the CPMS, complexities arising from privately-sponsored research, and the importance of reimbursing clinicians for their time.

Discussion

Several questions addressed funding issues, with speakers highlighting the *pro bono* work done by network leaders and others. The burden on coordinators would grow if networks expand in number and in geographical reach, it was argued. One participant said the spirit of ERNs is not to include centres from every country as full members, but to make expertise available to patients everywhere. Another said that if ERNs are viewed as ‘closed clubs’ of hospitals in higher-income Member States they would lose all meaning.

Panellists said ERNs should bring together the best possible expertise but, ultimately, should dream of developing expertise everywhere. This would eventually help to share the work among experts across the EU.

Another questioner asked panellists to put more thought into how ERNs could develop a sustainable business model. The networks will become an economic asset, it was suggested, with the potential to attracting funds for consulting services.

- The Clinical Patient Management System is up and running.
- Several improvements have been made since launch; more are planned.
- The EU budget offers several potential funding streams for ERNs, including through the health, research, cohesion, digital and social strands.

Round table V

The ERN integration in healthcare systems

Chair: René Wijnen, coordinator ERN ERNICA

The need to integrate ERNs in healthcare systems was emphasised in several sessions of the conference. This roundtable plenary heard from Member States and a network coordinator about how this can be achieved in practice. **Birute Tumiene, Lithuanian representative, ERN BoMS** stressed the many benefits of ERNs for Member States. 'The benefits go far beyond virtual care for patients,' she said, citing quality assurance, cross-border collaboration, training opportunities, patient registries and the sharing of scarce resources as some of the positive spill-overs of the networks.

The BoMS has a working group on integration of ERNs into national systems. It conducted a survey of 18 Member States to help identify areas for intervention. Key issues include embedding ERNs in national policies and legal frameworks; defining patient referral systems; and raising awareness of the networks. Member States can share experiences of how they are approaching some of these issues and the BoMS is collecting best practices to facilitate mutual learning. Ms Tumiene said the geographic, economic and health system diversity across the EU meant there is no one-size-fits-all solution, but Member States can still take inspiration from one another.

The benefits of ERNs go far beyond virtual consultations

*Birute Tumiene,
Lithuanian representative BoMS*

Spain has made progress in integrating ERNs. It has a highly decentralised model, with 17 autonomous communities of varying size and levels of development. **Laura Marin, Spanish representative at the ERN Board of Member States**, described how Spain's national reference centres operate and how this influences its participation in 17 ERNs. A national designation process was developed, setting out clear designation criteria and assessment procedures for national centres. After on-site evaluation, centres are approved for a five-year period, after which they are reassessed.

This model has been extended to selecting ERN members. Patients with rare diseases are first referred to a national reference centre and, where appropriate, to an ERN. Several national reference centres are active members of European networks. 'We are trying to adapt our national model of designation, assessment and monitoring to fit the ERN model,' Ms Marin said. 'We need to ensure the greatest possible alignment between the criteria for designating national and European reference centres.'

She pointed to a national reference centre for paediatric transplantation and how a patient referral system was developed to track patient flows, record information about the reason for transfer, log waiting times, and facilitate financial transfers between autonomous communities.

Looking ahead, future challenges will arise as Member States strive for complementarity between national and ERN assessment criteria, demands on leading experts, and financial constraints. 'Even though we have many challenges ahead, we should be proud of our achievements so far,' said Ms Marin.

ERN survey

A survey of participating ERN centres offered insights on how specialists view the networks. A total of 666 replies were received (out of 950 units contacted). Most view ERNs as a back-up referral option for rare or complex patients. For many, it is the fourth or fifth in line, after regional and national reference centres. However, 40% of respondents noted that they did not have access to a regional centre while 30% did not have a national referral centre.

Franz Schaefer, coordinator ERN ERKNet, said the survey also highlighted differences between centralised and de-centralised health systems. To better align ERNs with existing services in centralised systems, national and European referral centres should be matched. ‘National reference centres would be natural candidates for ERNs,’ he said. ‘This is what has happened in many countries with centralised systems like France and the Netherlands.’ In decentralised systems, there may be regional centres rather than national reference centres. This can make it more difficult for the ERN system to align with national healthcare systems.

The survey also asked what barriers clinicians face in uploading patient cases to the CPMS. Respondents reported a lack of awareness of ERNs and CPMS services. Language was not seen as a major barrier to working with the networks. Asked how to maximise utilization of ERN services, respondents said individual physicians need to be informed about the available services through professional societies and through patient organisations.

Dr Schaefer proposed a two-pronged approach to enhancing engagement with ERNs: revising national rare diseases action plans to highlight the role of the networks and engaging with professional societies and patient groups to raise awareness. He gave the example of a two-page document produced by ERKNet for doctors in Italy. It highlighted the CPMS tool clearly and concisely. In the weeks after the document was circulated, Italy became the most active country accessing the network’s website.

Discussion

Participants asked Dr Schaefer why Italian physicians were targeted, given the high participation of Italy in the networks, and whether ERKNet worked with patient organisations to raise awareness. He said there was initial hesitation to focus on Italy as they were reluctant to interfere with the established national referral system, but Italian primary care physicians and specialists encouraged them to do so. The network is also working with its EPAG on a flyer to hand out at out-patient clinics.

Another questioner wondered whether ERKNet had engaged with national authorities before reaching out to Italian health professionals. Dr Schaefer said the communication was ‘from physicians to physicians’ and did not address the political or healthcare system, so direct engagement with doctors was appropriate.

- Member States are collecting best practices on ERN integration.
- Reaching out to patient and professional organisations can raise awareness of ERNs.

Parallel session 1

ERN Showcases

Leader: Franz Schaefer, chair of ERN coordinators group & coordinator of ERN ERKNet

This session heard the experiences of four ERNs and how members are working together to overcome challenges and disseminate knowledge. The EpiCARE network, which covers rare epilepsies, described how a young patient in Finland was transferred to the UK for treatment. The patient's story is featured in a new European Commission video as part of the 'EU Protects' campaign. It illustrates how European collaboration has already improved clinical care for individual patients and their families.

The second network to be showcased was the TransplantCHILD network. There was an explanation of a complex case involving a child who developed Hemophagocytic lymphohistiocytosis (HLH) after undergoing liver transplantation. The patient subsequently had stem cell transplantation supported by multidisciplinary consultation using the CPMS. External advice was available virtually, allowing clinicians to make an informed decision based on the input of several experts.

ReCONNET was the focus of the third ERN example. The discussion explored some of the advantages and disadvantages of the CPMS. It is, according to some participants, complex to use. ERN members do not always reply promptly to messages shared via the CPMS and the experience of some contributors is that a simple phone call can be more efficient. It was also proposed that the CPMS allows consultation between ERNs, particularly when cases require input from several areas of expertise.

The final presentation looked at ERKNet's experience with delivering webinars. The network is developing a curriculum on rare kidney diseases with evaluation and certification. ERKNet is also looking at involving experts from other ERNs to take part in webinars. The most interesting cases from the CPMS platform could be presented, in an anonymised way, to teach young health professionals about clinical decision-making.

- ERNs are already working to improve outcomes for some patients with rare diseases.
- Webinars can be an effective way to disseminate information about rare diseases.

Parallel session 2

Quality assessment, monitoring and evaluation of the networks

Leader: Chris Chapple, eUROGEN

The key conclusion of the discussion was that ERNs should be assessed through continuous monitoring of agreed indicators. The ERNs and the BoMS for ERNs have agreed 18 common indicators to measure the progress of the ERNs. Data collection and reporting will begin in 2019 across all the ERNs. Also in 2019, ERNs will be developing their own disease specific outcome indicators. This information will be critical to understanding the positive impact that the ERNs are making to the lives of patients with a rare or highly complex condition, where the expertise is rare.

ERNs will be developing their own disease-specific outcome indicators in 2019. This information will be critical to understanding the positive impact that the ERNs are making to the lives of patients with a rare or highly complex condition, where the expertise is rare. There will be a degree of self-assessment and reporting of ERN as well as periodic validation of specific criteria of the healthcare providers. The session heard an update on the AMEQUIS (Assessment, Monitoring, Evaluation, Quality, Improvement System) tool which will be designed and developed between 2019 and 2020. This will integrate existing processes, helping to streamline evaluation. Continuous monitoring of ERNs is ongoing, culminating in a final evaluation at the end of the first five years of the networks' lifecycles. Results will be fed back to Member States to review in 2021/2022.

A presentation by members of the Joint Action on Rare Cancers, which is due to report in 2019, reflected on lessons learned and these might inform the development of the ERNs. The Joint Action began in 2016, overlapping with the development of the ERNs, and faced some of the same challenges that networks are addresses. The need to embed Joint Action activities into national and regional networks was emphasised, along with a desire to focus on patient outcomes. Registry development must be prioritised, and quality indicators developed, according to the speakers. The Joint Action is working with three ERNs covering rare cancers.

Continuous monitoring of ERNs is essential to their evaluation and to maintain excellence.

The AMEQUIS (Assessment, Monitoring, Evaluation, Quality, Improvement System) tool which will be designed and developed between 2019 and 2020.

The discussion moved to the role of Member States with a representative from Spain noting that they want to be more involved in ERN monitoring and assessment. Integration of the networks into national and regional health systems – a recurring theme in several plenary and parallel sessions – was seen as a priority.

The take-home message was that participants envisage closer integration with a flexible system that leads to improved patient outcomes which are measurable. Greater patient involvement is seen as essential to defining the outcomes patients want. The collection and assessment of outcomes data should be facilitated through technological solutions rather than adding to the workload of ERN participants. Further training in, and testing of, IT tools for data capture is required if members are to use the CPMS to its full potential.

Parallel session 3

Epidemiological and Clinical Research and the data challenge

Leaders: H  l  ne Dollfus, coordinator of ERN-EYE & Iiro Eerola, DG RTD

The session had a strong focus on ‘anti-fragmentation’ and ‘anti-silo’ approaches to sharing data. ERNs are healthcare providers but are also tightly linked to research which is designed to improve diagnostic procedures and how patients are treated. Speakers emphasised the potential of ERNs to build research capacity for diseases which have long been neglected.

Registries are one of the key elements in advancing rare disease research. ERN members are eager to move forward with developing registries and ensuring high quality and consistent data collection. A presentation from the JRC explained ongoing work to improve repository meta-data and announced that the EU Rare Diseases (RD) platform will be accessible in February 2019.

The question of how to use data most effectively was another hot topic. Data should be collected in a way that follows the ‘FAIR’ principles: it should be *Findable, Accessible, Interoperable, and Reusable*. By applying the same standards and using a common language, ERN registries can ensure interoperability. The example of the genome and phenome integrated platform set up by the RD Connect project illustrated how complex datasets can be used to improve research capacity which may ultimately benefit patients.

The question of how to use data for research purposes was addressed by putting the EU-funded Research project Solve-RD project in the spotlight. The initiative is dealing with 19,000 exomes and getting into highly rare genotypes. The session also heard from bioinformatics experts and the potential of using cloud-based systems to make knowledge accessible.

Overall, the discussion offered an overview of the main tools and platforms that aim to enhance how data on rare diseases is collected and used for research purposes. The forthcoming EJP (European Joint Programme) initiative, to which all ERNs are invited to participate, was also highlighted.

- Registries are a central feature of ERNs research capacity.
- Data should be collected according to the FAIR principles; data should be *Findable, Accessible, Interoperable, and Reusable*.

Parallel session 4

Hospital's management and ERNs

Leader: Eve Parier, CEO, Saint Louis Hospital, Paris

Hospital leadership will play a key role in the successful integration of ERNs into health systems. This session examined how hospital managers see their role in embedding ERNs in their institutions and explored ways in which they can increase their support to the networks.

There are several ways that hospitals can make life easier for ERNs, including through human resources support, improved working conditions, better communication and by offering specific tools such as access to databases and biological samples. With sustainability in mind, this must be done within the economic constraints facing hospital managers.

Two distinct subgroups of hospital managers were identified: one is the population of highly-motivated and supportive CEOs. These are often drawn from hospitals where an ERN coordinator is based, and they are actively integrating the network into the hospital's strategy. The second group is either not involved or simply not aware of the ERNs. These are more likely to be from hospitals where ERNs are members but not leaders. For this category of hospital manager, ERNs are not a high priority. Sharing experiences between peers was proposed as a means of raising awareness and promoting supportive activities among hospital CEOs.

Several hospital CEOs met in advance of the conference to discuss future collaborations. By forming a hospital managers group, they aim to promote ERNs in action at national and EU level; to share best practices among hospital CEOs; and to encourage national health ministries and the EU to increase support to the networks. Participants in the parallel session discussed some possible workshop topics that would be of interest to hospital managers. These included data management – especially in setting up registries; promoting financial studies on evaluating the costs and benefits of ERNs; cross-border reimbursement; sharing best practices on the role of national authorities; involving patients in ERN evaluation; and collaboration with the European Commission on tools to support hospital managers.

The next steps will be to formally create a structured group to represent all hospital managers and launch a meeting of CEOs in Paris in May.

- Hospital CEOs play a key role in supporting and integrating ERNs
- Some are more active than others; a structured group for sharing experience and good practice is in development

Parallel session 5

ERNs Sustainability

Leader: Prof. Kasia Kotulska, Polish representative at the ERN Board of Member States

The long-term sustainability of ERNs was discussed in detail during this session. Major challenges to the sustainability of the networks were identified. These include the absence of a clear vision of how ERNs should look in five, 10 or 20 years. For example, participants said it was not clear whether networks will ultimately be exclusive clubs or inclusive but very large organisations. It was also noted that not all rare disorders or populations are currently covered by the ERNs and how this will be rectified. Some participants highlighted the imbalanced geographical distribution of participating centres, and the variation in national policies and approaches to integrating the networks into health systems. Finally, the question of sustainable resourcing of the ERNs was addressed.

It was agreed that sustainability plans, including the plan for the integration of the Networks into the national systems with specified deadlines, are needed. There was some debate about whether organisational plans should be tailored to each individual network or if a consolidated plan should be developed and applied to all 24 ERNs, in relation to the new Networks' members and Affiliated partners.

Participants brainstormed some practical tips that could be explored as part of a sustainability strategy. The co-financing of grants likely influences the inclusion of new members, especially from lower-GDP countries, it was argued, suggesting that this could be reviewed to help achieve better geographical balance. There was a call for clearer rules on public-private partnerships, and for dedicated reimbursement and compensation schemes for virtual consultations and work of the clinicians in Networks. The potential financing sources for the ERN sustainability could be the new programmes financed by Multiannual Financial Framework 2021-2027, such as Horizon Europe.

- Challenges to the sustainability of networks were identified
- Integration of ERNs into national health systems, along with sustainable long-term funding, are needed to ensure the longevity of the networks

An ERN sustainability plan must address the unmet needs of patients with rare diseases, approximately 40% of whom are not currently covered by the networks. The strategy should also tackle geographical inequalities and variation in levels of support from Member States for ERNs. The long-term viability of ERNs will also depend heavily on the integration efforts of the networks, along with support of hospital manager, Member States and the European Commission. Finally, it was agreed that raising awareness of ERNs and their activities within the hospital, as well as general population was an essential first step in establishing the networks as a fixture in European health systems. There should be established efficient communication from the European Commission, ERN coordinators and Member states.

Parallel session 6

Patient-Healthcare professional partnerships in ERNs: sharing successes and challenges

Leaders: Ines Hernando, EURORDIS ERN and Healthcare Director, & Guillaume Jondeau, coordinator ERN VASCERN

The discussion was framed by a background document circulated in advance of the conference. It set out some of the challenges ERNs face in optimising patient-clinician partnerships. These include the need to build trust and collaborative relationships, solve language and communication barriers, along with technical limitations and time constraints. Most of the challenges are shared by patients and health professionals.

During the session, it was broadly agreed that patients need to realise that their interactions with clinicians in the context of an ERN is different to how they interact when they engage with clinicians regarding their own care: rather than representing themselves, they are advocating for the wider European rare disease patient community. When they sit in the ERN Boards or transversal groups, they are not only representing their own disease group, but rather all rare disease patients that fall under a given ERN, which may include a diverse group of people and diseases. As patient representatives in ERNs they have the same rights and obligations as other ERN members, and they should also be prepared to share responsibility for network activities.

In addition to their experiential knowledge, some patients may also bring specific skills that are useful for the ERNs (e.g. lawyers, telecom engineers, communication professionals, general managers, etc.).

For health professionals, it is important to nourish a symbiotic patient-clinician partnership which may need some time to develop. Patients require access to all information and need to see that their input is having an impact. It was agreed that patients should feel trusted and empowered. Training may be required to help patient representatives to engage on technical or complex matters but also to feel confident in their role as representatives, while training on communication skills may be required for clinicians.

Clinicians and patients from ERNs shared their experience of collaboration. Members of ERNICA, for example, recommended that patients should engage professionally rather than emotionally. VASCERN members outlined how trust can be cultivated by including patients as team members in all activities from the beginning. ITHACA participants described how they had worked together to develop a clinical guideline and showed how the patient representative was involved in all the stages of the guideline development. Of particular value was the patient's feedback on the feasibility of some aspects of the guideline (practical implementation of the guideline) and the development of easy-to-read information sheets.

In conclusion, patient-clinician partnerships are a work in progress, requiring time and commitment but offering potential for more effective collaboration. ERNs are a great opportunity for this collaboration for the unprecedented scale of this partnership in terms of scope, breadth and depth.

- Patient-clinician collaboration is essential to the ERN model
- Building trust and developing a good working relationship takes time, empathy and training

Parallel session 7

Clinical guidelines and knowledge generation

Leaders: Maurizio Scarpa, MetabERN, György Pfliegler, Hungarian representative at the ERN Board of Member States, Enrique Terol, DG SANTE

This session was composed of two parts: the first explored guidelines and, specifically, the role of ERNs in assessing and creating guidelines, and the second looked the development of training and education programmes.

A contractor is supporting coordinators in defining a taxonomy of relevant guidelines. It was emphasised the focus should be on creating a framework through which ERNs can complement existing guidelines rather than seeking to replace what has already been developed. The contractor provided an update on work done to date, including a map of documents created by ERNs and plans for future collaboration. Speakers also highlighted the need for robust methodology for creating guidelines so that ERN-supported guidelines are perceived as being of top quality.

The session also heard an example from Hungary on the production and implementation of guidelines. This was complemented by contributions from a physician on how guidelines influence daily practice of clinicians.

The group discussed a matrix of criteria for guideline development, highlighting the need for quality, transparency, standardisation and ease-of-use. A call for tender was recently published by the Commission in order to have a structured, consistent, and methodologically robust way to produce and update guidelines produced by ERNs. In this way, the networks can cooperate to evaluate existing guidelines, update where necessary and develop new ones to fill gaps. It is also essential to evaluate, approve, publish and disseminate guidance.

Finally, the session considered the need to attract young clinicians to the rare diseases field. In order to maintain momentum in the decades ahead, after key ERN leaders retire, a new generation of students and professionals should be trained and educated in rare diseases and the role of networks.

- ERNs have potential to evaluate and create clinical guidelines
- A contractor is supporting the networks defining a taxonomy of relevant guidelines, and a tender has been launched to support ERNs in the production and implementation of guidelines

Parallel session 8

New medicines, medical technologies, clinical trials & stakeholders support

Leaders: Victoria Hedley, Rare Diseases Joint Action & Luca Sangiorgi, coordinator ERN BOND

The final parallel session covered a broad spectrum of topics related to 'research', ranging from the role of ERNs in developing new medicines and medical devices/medical technology, to the repurposing of medicines, considering necessary stakeholder collaboration for each activity. The need for action in this broad arena is clear: only circa 400 of over 7,000 rare diseases have a dedicated therapy, and at the current rate of progress it will take an estimated 500 years before there is a treatment for all rare diseases.

The group began by considering how ERNs can add value to clinical trials, starting from a summary of a previous workshop on this topic that took place at the end of May 2018, organised jointly by RD-ACTION, EMA, DG SANTE, and the ERNs. This event generated numerous concrete suggestions on how ERNs could add value to clinical trials and studies, and several of these were presented here.

A major barrier to progress in this area is the current uncertainty about how to engage with key stakeholders in the research sphere, particularly companies. Clear rules are needed on how ERNs can conduct research safely, effectively and ethically, it was agreed; however, participants emphasised that many examples of fruitful collaborations exist in the rare disease field. Thus far, the BoMS statement on ERN engagement with industry has hampered efforts to begin these conversations in earnest. The session heard that the BoMS is updating this statement on ERNs and industry, and the joint Conflict of Interest statement prepared by coordinators is almost ready. Once these have been finalised and adopted, the focus will shift in 2019 to developing an ERN research Code of Conduct, which will explore mechanisms to enable responsible and mutually beneficial engagement with companies. Participants urged the drafting committee to base this document upon existing codes.

Although clinical trials and studies have traditionally been a focus of the ERN research agenda, participants discussed activities which could be considered as 'low-hanging fruit' for rare diseases research, including repurposing of existing drugs for use in rare diseases, and the development of devices and medtech (including developments around biobanks, big data and drug screening) to support patients. The European landscape in each of these areas is currently changing: the new Regulations on Medical Devices were highlighted, along with the work of the STAMP (Commission *Expert Group* on Safe and Timely Access to Medicines for Patients).

As an essential backdrop to all of these discussions, the session presented the status quo of European collaboration on HTA. New stakeholders were proposed for the ERNs to partner with. The challenge ahead is to piece together the various pieces of the 'puzzle' and agree how to align ERN activities with other new or ongoing initiatives in these areas (such as EJP, conect4children, Solve-RD etc.), to allow the ERNs to reach their unique potential and catalyse ERN research activity.

A key message emerging from the session was the importance of involving patients and patient advocates in all forms of research activity, as early as possible and in a meaningful manner – this enriches and optimises the quality and applicability of the research outputs. A meeting is planned for January 2019 to discuss the ERN research strategy further, which will utilise the outputs of the May EMA event, of this session, and the findings of two key questionnaires designed to map the research capacities, plans and priorities of the 24 Networks.

- Research is essential to address unmet need in rare diseases
- ERNs are uniquely placed to add value in various research-related activities, by developing new therapies and medical devices/medtech, repurposing medicines for rare diseases, and forming collaborations with a broad range of stakeholders and complementary initiatives
- ERNs need guidance and clarity on interactions with industry
- It would be interesting to dedicate additional focus in future to the potential of ERNs to streamline and enhance HTA in the rare disease and highly specialised healthcare domains

Closing remarks

Concluding the two-day conference, **Andrzej Rys, Director, DG SANTE**, reflected on the progress made since the last ERN conference in Vilnius in March 2017. Together, the ERNs, Member States and the Commission have overcome several technical and legal challenges arising from the use of patient data for virtual consultations. The conference will help to set priorities for the year ahead which will include consolidation of the networks, integration within health systems, improving geographic coverage, further enhancing the CPMS, advancing monitoring and quality improvement, and enhancing communication with all stakeholders.

Mr Rys said the networks are becoming communities driven by the passion of their leaders and members. 'This conference showed the essential ingredient for ERNs is passion,' he said. 'We have to bring together clinicians, patients, hospital managers, researchers and Member States who share the vision of these networks to **share, care, cure.**'

Useful links and information:

- ERN Conference webpage: https://ec.europa.eu/health/ern/events/ev_20181121_en
- ERN EU protects video: <https://ec.europa.eu/avservices/video/player.cfm?sitelang=en&ref=1164244>
- Video clip for patients and their doctors: https://ec.europa.eu/health/ern/videos_en
- Flyer for patients: https://ec.europa.eu/health/sites/health/files/ern/docs/2018_patientsflyer_en.pdf