

Public report on the

Border Region Project

Practical examples of data exchange in the border regions



Why the Border Region Project?

Information exchange in healthcare does not stop at the Dutch border. Along with international travel, cross-border healthcare is becoming increasingly common. It is important for Nictiz to keep track of these trends and to coordinate developments at home and abroad to make cross-border data exchange possible.

In late 2019, a project called *Cross-Border Data Exchange in the Border Regions*, or Border Region Project for short, was launched. The goal of this project is to accelerate digital information exchange in the border regions and to share this knowledge with other (border) regions. Working with regional parties enables us to

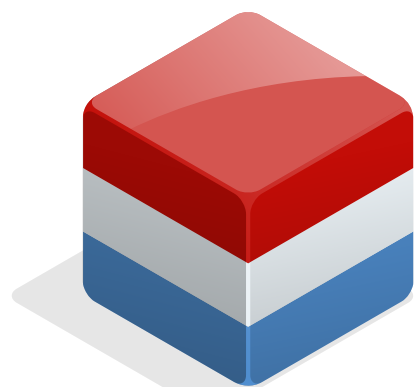
identify local impediments and find solutions together.

We have already made significant improvements in two situations involving cross-border information since the start of the project. We will share more about these two challenging situations in this report.



How does this align with the rest of Europe?

Increasing knowledge in the border regions is also important in the light of European developments. We are actively working on the implementation of European policy in the Netherlands. In 2022, for example, the Netherlands joined the European infrastructure for the exchange of healthcare data (MyHealth@EU), and the European Commission published a proposal this year for a European Health Data Space. These developments indicate that international collaboration will only become more important in the future. The border regions, where Dutch healthcare organisations work with healthcare organisations in Belgium and Germany, are an ideal environment for gaining, developing and sharing expertise.



Collaboration between Maastricht UMC+ and Uniklinik Aachen: radiology images



Patient journey - old scenario

Frank is a gastroenterologist at MUMC+ and he treats Dutch patients who need a liver transplant. Most of his patients come from the area around MUMC+. Because the Dutch liver transplant centres (Rotterdam, Leiden and Groningen) are too far away, MUMC+ collaborates with an academic hospital just across the border in Aachen (UK Aachen). This collaboration is very convenient for his patients, because it means they can get the care they need in their own area.

This collaboration does involve some extra paperwork for Frank, however. Dutch patients who are transplant candidates are discussed every week at a multidisciplinary meeting in Aachen. These discussions are based on various radiology test results. Due to data

security and privacy issues, the results from MUMC+ can't simply be sent to UK Aachen. So the results are burned onto a DVD, which is then taken to Aachen by the Dutch doctors attending the meeting.

Frank has had it happen more than once that a crucial image was missing from the DVD or that additional testing was needed. When that happens, the decision has to be postponed until the next meeting, which means a longer wait for the patient to be placed on the transplant list. Not only is this inconvenient for the patient, there is the extra work for Frank and his colleagues. If only there was a way to send these results securely to the German hospital at any time...



Patient journey - new scenario



Frank has made new scans of his patient, who will be discussed next week at the transplant meeting in Aachen. He posts the results on the Twiin portal, which MUMC+ joined in January 2021. This allows him to make the images available to other hospitals. Not just Dutch hospitals, but German hospitals as well, because Germany has a similar portal, the Westdeutsche Teleradiologie Verbund. Because these two portals are now linked, Frank can make the radiology images from Maastricht available to his German colleagues. And he no longer has to burn DVDs to take with him to Aachen.

What does this solution mean for the quality of care?

This solution for the exchange of radiology images between Maastricht and Aachen is available to all Dutch and German hospitals that are connected to the Twiin portal and the German WDTRV portal. This means that Dutch patients will no longer have to bring their own DVDs with them when travelling to a German hospital. And also in exceptional situations, like during the covid pandemic, it provided a much simpler and more efficient way of sending the medical images of patients who were transferred to a German hospital. Additionally, it reduces the risk of losing information.

“ Here in Maastricht the fact that we no longer have to burn DVDs has definitely meant an improvement in how we can provide treatment for our patients in Aachen. Nowadays, if we want to discuss our X-ray images or CT or MRI scans in Aachen, we just use the linked Twiin and Westdeutsche Teleradiologie Verbund networks. The next step would be the ability to exchange even more patient data, such as lab results.



- Matthijs Kramer, Gastroenterologist at MUMC+



Collaboration between Medisch Spectrum Twente and Kreis Borken: electronic notice of arrival



Patient journey - old scenario

The ambulance receives a call. An accident just happened on the Emsland-autobahn, the German highway between Emden and Gronau. Lotte takes the call. She works as a krankenschwester, an ambulance nurse, for the German ambulance service in Kreis Borken. Lotte and the emergency physician drive to the accident in the ambulance. As soon as the ambulance arrives, they provide

emergency care. The doctor makes a diagnosis and quickly concludes that the injuries are so severe that the victim needs to be taken to the hospital as soon as possible. The nearest hospital is Medisch Spectrum Twente (MST) in Enschede. In the ambulance, Lotte contacts the Emergency Room at MST. She informs the charge nurse over the phone of the diagnosis and the care that will be needed on arrival at the hospital. The communication is made difficult

by the fact that Lotte doesn't speak Dutch and the charge nurse only knows a little German. Based on the information provided by Lotte, the charge nurse calls for a trauma team. Unfortunately the inadequate information may result in the wrong trauma team meeting the ambulance.

If it was a Dutch ambulance transporting the victim, all the information would be recorded electronically and sent to the hospital system via an

electronic notice of arrival. That way the charge nurse at the hospital has all the information she needs to have the right team meet the ambulance on arrival so the correct treatment can be provided right away. The lack of delay can mean the difference between life and death in emergency care.

What does this solution mean for the quality of care?

Healthcare providers in the Dutch-German border region Noordrijn-Westfalen, Nedersaksen, Twente and Oost-Achterhoek actively work together under the umbrella of Netwerk Acute Zorg Euregio. The transfer from the German ambulance to the Dutch hospital MST constitutes a significant bottleneck in the cross-border emergency care.

The solution to this problem would be to link the existing German system to the Dutch ambulance system network. During the drive to the hospital, the data from the German ambulance from Kreis Borken are sent to a secure server. These data are then stored in a dedicated part of the

server that is accessible only by the hospital where the patient is being taken, regardless of whether this is a German hospital or a Dutch hospital. Implementing this solution will result in faster, less ambiguous transfer of information so better care can be provided in emergency situations.

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We regularly receive patients in the ER who have been transported to MST by German ambulance. We are notified by phone, but the information we're given is often minimal. An electronic notice provides a much better overview of the patient's condition so we can make sure that the right team is ready to take care of the patient!

- An ER nurse at MST

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Patient journey - new scenario

The data sent by the German ambulance to the ambulance call centre in Kreis Borken is retrieved by the Dutch regional ambulance system and sent to Dutch hospital MST. This all happens while the ambulance is still on the way, so the charge nurse at the ER receives the information before the patient arrives. Sending this electronic notice of arrival in advance enables the trauma team to provide the correct treatment right away at the ER.



Conclusions and looking ahead

Success factors in the Project Border Region Project

- ✔ All parties involved discuss the problem together. The discussion focuses on multiple aspects, such as the healthcare process, agreements on collaboration, and the technology used on either side. By discussing the different details the parties often find that the elements for a solution are already there. The challenge is connecting those elements effectively. That's where the Border Region Project comes in.
- ✔ Thanks to a subsidy from the Ministry of Health, Welfare and Sport, the solutions in the above examples were made a reality. Nictiz is continuing this initiative to accelerate the electronic exchange of information, both at home and abroad.
- ✔ Electronic exchange of healthcare information between countries is a major challenge. Because of the relatively small scope of the two sub-projects, the objective was clearly defined from the start. Since the tasks involved were fairly concrete and small-scale, the projects were completed in time, mostly within one year.

What have these solutions brought about?

The right information, at the right time, in the right place

Sending radiology images and ambulance arrival notices electronically will make the information available faster, and it will be more up to date. This way, the right information will be available at the right time so the most appropriate care can be provided.

Secure transfer

Electronic transfer of images in a secure environment reduces the risk of accidental disclosure of sensitive personal information. Electronically transferred information is less likely to end up in the wrong place than a physical DVD.

Reduced risk of errors (administrative/translation)

Results and interpretations no longer have to be retyped or translated. This reduces the risk of errors.

It saves time

Patient care is much less likely to be delayed or postponed due to lack of information if the information is transferred electronically.

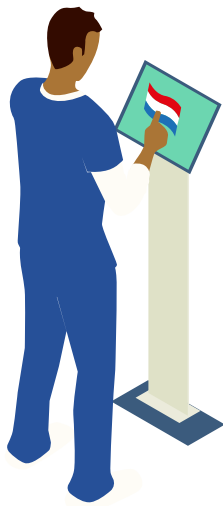


How will we follow up on this project?

Electronic exchange of healthcare data in the Netherlands and abroad is also a priority for the Ministry of Health, Welfare and Sport. Coming up with solutions on a small scale in the border regions adds to the continual learning process.

The image exchange project is currently being expanded in Maastricht. Various other departments at MUMC+ now also want to exchange radiology images with hospitals in Germany. And research is being done to find a way to electronically share lab results for liver transplants with Uniklinik Aachen.

There are many more examples in the Netherlands of collaboration in the border regions. The solutions of the Border Region Project are now used in Nijmegen and Groningen as well. Nictiz is also involved in finding solutions for bottlenecks in the cross-border exchange of healthcare data in the regions along the border with Belgium.



The Border Region Project facilitates the process of finding solutions for cross-border electronic data exchange. Since Nictiz is involved in its capacity as a centre of expertise, we try to make sure that these solutions adhere as much as possible to the information standards that are used in the Netherlands. We

also monitor developments at the European level. This will enable us to scale up the earlier examples from the Border Region Project for larger exchanges at the national or European level.

Do you want more information about technical solutions or assistance

with information exchange in border regions? Feel free to contact our International Team at internationaal@nictiz.nl