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Institute for Transnational and Euregional cross border cooperation and Mobility / ITEM

Cross-border Cooperation on Ambulance and Intensive Care Transport

Examining Opportunities to Strengthen Cooperation

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Examining Opportunities to Strengthen Cooperation

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1. Introduction

Ambulance and emergency transport is vital to saving lives since the first response medical care provided may prove to be the difference between life and death. Ambulance and emergency services may be available only to a limited extent, especially in remote areas or in border regions. In the Euregio Meuse-Rhine, authorities have long cooperated on cross-border ambulance care in the context of EMRIC (Euregio Meuse-Rhine Incident control and Crisis management). The provision of cross-border ambulance care in the Euregio Meuse-Rhine (EMR) has therefore been governed by an agreement aimed at ensuring that 'in the event of life-threatening danger to people due to an accident or acute illness, the fastest possible qualified medical assistance in the designated area is guaranteed without the national border being an obstacle'.[1]

Cross-border cooperation on ambulance services is necessary because response times set to adequately answer to medical emergencies are not always met in the border region, thereby resulting in life-threatening situations. Despite the obvious need for cross-border ambulance and emergency care, cooperation in this area is anything but obvious. Differences between national systems in the Netherlands, Belgium, and Germany concerning, for example qualifications, medical practice, organisational structure, and technical requirements complicate the provision of cross-border ambulance services.

Whereas an agreement has been concluded in the EMR to organise ambulance services in that cross-border region, cooperation in this area is not a one size fits all structure. Actors in other border regions also cooperate on cross-border ambulance care. In another example, one may refer to the Dutch-Belgian border which is subject to a Benelux Decision on cross-border ambulance services, the purpose of which is "to make rapid, effective and efficient cross-border emergency medical assistance possible on both sides of the Belgian-Dutch border in special situations".[2] Nevertheless, despite existing agreements, concerns have been expressed that cooperation on ambulance services often lacks a structural form, meaning that cooperation is dependent on a series of temporary projects. This non-structural character of cooperation has negative consequences in practice. For example, competent authorities on both sides of the border must be consulted (and convinced) each time a project is renewed. This is an intensive process prone to unnecessary repetition that takes time away from optimising the actual objective of this cooperation: realising high quality ambulance care and emergency transport in the border region.

Furthermore, a distinction must be made between different types of medical transport services. Whereas the agreement concluded in the EMR concerns ambulance transport in emergency (i.e. life-threatening) situations, other forms of transport such as regular ambulance transport (i.e. in non-life threatening situations), and intensive care (IC) transport may also need to take place cross-border. During the COVID-19 pandemic, for example, patients were regularly transported from the Netherlands to Germany. However, since coordination of the spread of patients was taken over by the central level patients were not always transported from hospitals in the cross-border regions (e.g.

[1] Artikel 1(1) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[2] Artikel 2 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

from Maastricht to Aachen), but were instead often transported via helicopter, for example, from Amsterdam to Münster. The "overruling" of cross-border cooperation during COVID-19 has nevertheless given rise to the question whether and how intensive care transport can take place in the cross-border region of the EMR. While different forms of transport also include transport by air by means of a helicopter, the present report focuses on medical transport of patients by land.

The complexity of the organisation of ambulance and emergency services at a cross-border level paired with the multitude of existing cooperation forms leads to questions regarding which obstacles are most persistent and how they may be resolved. A core question in this respect concerns the deployment of ambulance personnel and the recognition of their qualifications. However, other issues related to signalling, transport of opiates, and reimbursement by insurers may also be identified. Against this background, there is a need for a thorough analysis of the current status of cross-border ambulance care in the Dutch-Belgian-German border region to facilitate this care on a structural basis along the entire Dutch border with Belgium and Germany (North Rhine-Westphalia) in the future. In addition to applicable laws and regulations, it is thereby important to analyse these laws and regulations in relation to practice. All in all, this gives rise to the following research questions central to this report:

1. What is the current state of play of cross-border cooperation on ambulance and intensive care transport services in the Dutch border regions?
2. Which best practices exist in terms of legal and administrative agreements on cross-border ambulance and intensive care cooperation and how do they function?
3. How is ambulance and intensive care transport organised in the Netherlands, Belgium, and Germany (North Rhine-Westphalia)?
4. What are the main legal and administrative obstacles to rendering ambulance and intensive care transport cross-border?
5. How may existing obstacles to ambulance and intensive care transport in cross-border regions be resolved?

In order to answer the abovementioned questions a literature study is conducted and paired with an analysis of relevant legislation and policy. Here, particular focus is placed on legislation and policy central to realising ambulance and intensive care transport in a country (i.a. registration, training, and technical requirements). To ensure that findings from these studies are placed in their relevant practical context semi-structured interviews were conducted with core stakeholders such as representatives of ambulance services, training centres, policymakers, and representatives responsible for best practices on cross-border ambulance cooperation.

In terms of structure, Section 2 of this report examines the state of play of ambulance and intensive care transport in the Dutch border regions with its neighbouring countries (research question 1). Here, the results of the interviews conducted will be discussed. These results are then further integrated into the analysis of the legislation and policy on cross-border ambulance and intensive care transport. In Section 3 the focus is shifted to cooperation agreements (question 2). In particular, attention is given to existing agreements (best practices) and other opportunities to structure cooperation on cross-border ambulance and intensive care transport in the border region of the EMR. Section 4 subsequently focuses on exploring the way ambulance and intensive care transport are structured in the Netherlands, Belgium, and Germany (North Rhine-Westphalia) and which obstacles may be

perceived in case of cross-border cooperation (research questions 3 and 4). Here, particular attention is devoted to the personnel working in ambulances or intensive care transport units, their qualifications, technical requirements, and insurance cover. Section 5 concludes the report. Apart from summarising the research findings, Section 5 also provides recommendations for future action. Ultimately, the result of this study is an in-depth analysis of the current state of affairs of cross-border ambulance and intensive care transport in the EMR that ultimately leads to recommendations regarding concrete follow-up steps that partners can take to pave the way for a more effective, long-term, and structural cross-border cooperation on ambulance and intensive care transport.

2. The State of Play of Cross-border Cooperation on Ambulance and Intensive Care Transport

Cooperation on ambulance and intensive care transport has been taking place for years in the EMR following the conclusion of the Agreement on Cross-border Neighbourly help in Ambulance Care (*Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening*). The EMR Agreement is built on a *rendez-vous* system where the closest ambulance – irrespective of its country of origin being the Netherlands or Germany – will provide life-saving emergency care after which the local ambulance will transport the patient to the nearest hospital. Questions have nevertheless arisen over the course of time concerning whether cooperation on ambulance and intensive care transport could be intensified. Particular questions thereby concern how cooperation may be deepened and whether the existing legal and administrative framework provides sufficient opportunities to do so.

In order to answer such questions as well as gaining a general understanding of how ambulance transport takes place in practice in the Dutch border regions with Germany and Belgium, 9 interviews were conducted with stakeholders from local ambulance and rescue services, hospitals, partnerships, and authorities. Below, interview results are presented following the following themes: current cooperation on ambulance care, obstacles experienced, intensive care transport and its different nature as opposed to ambulance transport, the influence of COVID-19 on cooperation, and best practices and recommendations for the future.

2.1 Existing Cooperation on Ambulance Care

In general, interviewees consulted on their experiences with the *rendez-vous* system as applicable in the EMR reacted very positively to its functioning and to cooperation in the context of EMRIC.[3] One interviewee highlighted the system's core which is rooted in mutual recognition of the standards of the countries involved. Indeed, when an ambulance from the neighbouring country is called to the scene, care is provided following the standards applicable in the home country. In this sense, both sides of the border mutually recognize the quality of care provided on the other side of the border in life threatening situations.[4] It was thereby stressed that cooperation on ambulance care in the EMR is focused on life saving care as opposed to other forms of medical transport of persons.

As far as "flows" of ambulances and the intensity of cooperation are concerned, more ambulances appear to come from North Rhine-Westphalia into the Netherlands than the other way around.[5] Some interviewees thereby emphasized the fact that the need for ambulance care is more pressing on the Dutch side since there are less ambulances present there, meaning potential shortages are remedied through the use of the *rendez-vous* system. Indeed, the necessity for particular ambulance services was held to drive the need for cross-border cooperation in a more general way.[6] Furthermore, the level of cooperation was not considered to be as advanced along the whole Dutch-German border whereby considerable differences exist between regions.[7]

[3] Interview 1 – Partnership – 24 February 2021; Interview 2 – Local Authority – 25 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[4] Interview 2 – Local Authority – 25 February 2021.
[5] Interview 1 – Partnership – 24 February 2021; Interview 2 – Local Authority – 25 February 2021.
[6] Interview 5 – Local Ambulance Service – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[7] Interview 8 – Regional Authority – 26 May 2021.

By contrast, although cooperation is also ongoing, it appears to be less intensive on the Belgian side.[8] When it comes to the relationship with Belgium, possible cooperation on ambulance and IC transport is governed by a Benelux Agreement. In relation to this cooperation, one interviewee cited differences in healthcare systems as a challenge for closer cooperation.[9] Furthermore, geographic issues (i.e. the presence of the Meuse and restrictions in terms of accessibility) were also cited as factors limiting opportunities for cooperation with Belgian partners.[10] Another possibility considered was that cooperation existed less where areas were less densely populated (i.e. there was less of a need for cooperation).[11] Another interviewee reported receiving little information on the status of cooperation on the Belgian side and considered it difficult to estimate whether there were perhaps little problems due to a well-functioning agreement or whether there is simply less (demand for) cooperation.[12] Others indicated that the lack of a specific agreement in the region concerned with Belgium meant that cooperation occurred much less.[13] Legal obstacles as well as the division of competences across the three Belgian Communities were thereby said to complicate matters further. Evidence from an earlier study conducted with several Dutch and Belgian municipalities showed that – despite extensive efforts – no structural cross-border intervention of ambulance services took place.[14] By contrast, the level of cooperation and complexities experienced are much better known for the cooperation between the Netherlands and Germany (North Rhine-Westphalia) – which is generally more advanced.

In relation to possible future agreements on cross-border cooperation in ambulance care, one interviewee considered that the positive experiences with the model applied in the EMR should lead to similar provisions being made for the whole border between the Netherlands and North Rhine-Westphalia where ambulance care is concerned.[15] An interviewee representing an ambulance service in a Dutch border region different from the EMR confirmed that a system similar to the EMR's *rendez-vous* system was also applied.[16] Another interviewee confirmed that discussions were ongoing in a dedicated working group to introduce similar agreements in other border regions along the Dutch border with North Rhine-Westphalia since strengthening cooperation on ambulance transport was considered a priority by national Ministries.[17] These efforts were interrupted by the need to handle the effects of the COVID-19 pandemic. Nevertheless, over the course of these discussions' hesitation was at times expressed at the administrative level in other border regions not yet having structured their cross-border cooperation in ambulance care due to uncertainties concerning matters of administrative responsibility.

As far as actors concerned with cooperation in the area of ambulance care, actors at various administrative levels cooperate with one another. Some of the parties involved include: Ministries with dedicated tasks in coordination, information-sharing, and resolution of issues, District Governments (responsible for i.a. recognition of qualifications and coordination with the Ministry and

[8] Interview 1 – Partnership – 24 February 2021; Interview 6 – National Ministry – 17 May 2021.
[9] Interview 1 – Partnership – 24 February 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[10] Interview 1 – Partnership – 24 February 2021.
[11] Interview 7 – Regional Ambulance Service – 26 May 2021.
[12] Interview 6 – National Ministry – 17 May 2021.
[13] Interview 4 – Local Ambulance Service – 10 May 2021.
[14] M. Unfried, Ambulances without Borders: towards sustainable cooperation between emergency services, B-solutions Advice Case for the Municipality of Woensdrecht, February 2020.
[15] Interview 8 – Regional Authority – 26 May 2021.
[16] Interview 5 – Local Ambulance Service – 17 May 2021.
[17] Interview 1 – Partnership – 24 February 2021.

local partners as well as resolution of issues), partners cooperating on ambulance care in the field, and Health Authorities (e.g. *Gesundeitsämter*).[18] One of the interviewees representing a regional authority noted that the coordinating and connecting function of the authority at times made it more difficult to see obstacles experienced by practitioners.[19] According to the interviewee, cooperation structures such as EMRIC ensured that issues could be identified and tackled quickly.

2.2 Obstacles to Cross-border Cooperation on Medical Transport of Persons

Various obstacles could be identified over the course of the interviews conducted. These can again be organised in several themes. Indeed, systemic differences, issues concerning insufficient coordination, networking, and knowledge exchange, as well as matters concerning differences in education and training and the way professions are structured are some of the most-cited concerns.

In general, several interviewees pointed to differences existing between the national systems for ambulance transport.[20] These differences were, for example considered to complicate the extension of the *rendez-vous* system to other border regions. Accordingly, attempts to extend that system to other border regions have not yet been successful. When it comes to specifying these **structural differences**, an example can be seen when looking at the level at which ambulance care is organised. Whereas in the Netherlands, ambulance care is mostly arranged nationally, in Germany legislation and protocols are set at the level of the *Bundesländer*. These differences are translated to competences being divided across a variety of different actors. Since ambulance services are covered by different competences and regulations they must interact with other parties and therefore cannot always resolve matters independently.[21] Cross-border cooperation was considered of particular importance to ensure that issues experienced could be resolved.

Another interviewee considered systemic differences to persist due to lacking harmonization.[22] Regional agreements between neighbouring regions were thereby held to be an important means to combat difficulties arising from systemic differences. The interviewee also noted that, in the past, issues could often be resolved in practice by ensuring that parties make agreements among themselves whereby it was not necessary to initiate legislative change to support cooperation.[23] Indeed, sufficient opportunities were held to exist within the existing legislative and administrative frameworks.[24] Remaining questions could thereby usually be resolved via specific solutions that could be covered by agreeing on particular exemptions.[25] Where is a vacuum regarding existing rules, this provides room to make specific agreements. In this context it, is important to highlight which instruments – for example, the Anholt Treaty – are available to actors in the Dutch/German cross-border region. It was nevertheless also considered useful to have a regular forum at which issues may be reported and can be taken up by the responsible party.

[18] Interview 3 – Local Ambulance Service – 10 May 2021; Interview 6 – National Ministry – 17 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[19] Interview 8 – Regional Authority – 26 May 2021.
[20] Interview 1 – Partnership – 24 February 2021; Interview 2 – Local Authority – 25 February 2021; Interview 5 – Local Ambulance Service – 17 May 2021.
[21] Interview 8 – Regional Authority – 26 May 2021.
[22] Interview 6 – National Ministry – 17 May 2021.
[23] Interview 6 – National Ministry – 17 May 2021.
[24] Interview 3 – Local Ambulance Service – 10 May 2021; Interview 6 – National Ministry – 17 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[25] Interview 8 – Regional Authority – 26 May 2021.

Another obstacle cited concerns **insufficient familiarity with one another and each other's systems as well as lacking coordination**.[26] Pilot projects were thereby considered to be particularly important to resolve issues such as these to exchange knowledge on the respective systems.[27] Not knowing each other was considered to be particularly problematic in relation to cross-border cooperation since it could lead to other barriers such as a lack of structural cooperation and lacking consensus on what type of cooperation is aimed for.[28] Furthermore, this may also affect cooperation on an operational level. One example thereby concerns quality standards. Under the *rendez-vous* system, ambulance personnel work under their own national quality standards. The problem thereby is nevertheless that professionals on each side of the border are unaware of one another's standards. For example, Germany is said to have more protocols than the Netherlands, but each of them are not held to differ considerably in terms of content.[29] Cooperation may also be impeded if partners are not familiar with competences of medical staff or the kind of materials or equipment that are used by the neighbouring Member State's staff.

In this context, structural difficulties coming from **differences in the education and training as well as the structure of professions and competences of personnel in ambulance care** were considered problematic by several of the interviewees.[30] A primary difference thereby concerns the staff riding with the ambulance. Where a German ambulance is generally staffed with a doctor, ambulance paramedic, and ambulance driver, the Netherlands has a system where ambulance nurses together with an ambulance driver provide care.[31] The Dutch system was thereby described as an "extended arm construction" where staff is competent to carry out medical activities following designated protocols.[32]Although under the Dutch system no doctor therefore rides with the ambulance, training was indicated to be more extensive in the Netherlands.[33] In the Netherlands, an ambulance nurse must first complete training as a general care nurse after which experience must be gained in a specialized hospital department (e.g. IC or anesthesiology) before access can be sought to supplementary education in ambulance care. In Germany, a person may follow separate training in ambulance care directly. Apart from the duration of training therefore being longer in the Netherlands, another difference concerns the existence of a register for professional development (indicated to exist in the Netherlands, but not yet in Germany).[34]

Differences such as the ones mentioned above were said to make cross-border deployment of medical professionals challenging. Nevertheless, some interviewees considered that the differences in systems were not massive, but that there is a need to be aware of them and of differences in medical cultures.[35]

[26] Interview 2 – Local Authority – 25 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021.
[27] Interview 5 – Local Ambulance Service – 17 May 2021.
[28] Interview 7 – Regional Ambulance Service – 26 May 2021.
[29] Interview 7 – Regional Ambulance Service – 26 May 2021.
[30] Interview 2 – Local Authority – 25 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 4 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[31] Interview 2 – Local Authority – 25 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 6 – National Ministry – 17 May 2021.
[32] Interview 7 – Regional Ambulance Service – 26 May 2021.
[33] In comparison to both Germany and Belgium (whereby Belgium was indicated to have the shortest training time; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[34] Interview 2 – Local Authority – 25 February 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[35] Interview 2 – Local Authority – 25 February 2021.

In order to make such differences more visible, added value was seen in conducting a scientific evaluation of national protocols. Nevertheless, there general awareness was indicated to exist regarding the biggest differences between professions and education and training in the respective countries.

Despite this awareness, a challenge was, however, considered to lie in overcoming these challenges through the recognition of qualifications.[36] As of yet, procedures for the recognition of qualifications are the only way of overcoming differences and ensuring professionals can work in each of the respective country's systems.[37] Recognition procedures were thereby said to be challenging due to their long duration and considerable cost.[38] Interviewees thereby particularly reported having experience with Dutch-trained ambulance personnel looking for recognition of their qualifications in Germany (and not the other way around).[39] Another complexity was seen in the Dutch system where nursing specialisations (such as ambulance care) have their own register organised by parties outside the Ministry, thereby rendering the landscape of competent organisations more vast.[40] In terms of solutions, one interviewee believed that issues concerning recognition could be facilitated top-down from the political level.[41] Another option was to have persons from Germany follow training in the Netherlands and vice versa. Although this has worked well in the past for some colleagues, it has not led to a qualification in both countries meaning recognition is still necessary.[42] Another option proposed was to organise a pilot project to examine whether more cooperation on education and training – and ultimately exchangeability of ambulance personnel – is feasible and of added value.[43]

Despite possibilities and desires for closer cooperation and exchange in education and training, some parties questioned the need for a more integrated approach. One interviewee made a clear distinction between acute emergencies for which the *rendez-vous* system provides a suitable solution and long-term and full exchange of staff across borders.[44] In light of the good functioning of the present system, questions were raised as to the added value of having a full exchangeability of staff whereby some interviewees considered that this was perhaps an objective to be pursued further in the future.[45] One interviewee thereby considered the necessity for exchangeability and one combined team of professionals really depended on the type of transport.[46] If transport volumes and capacity were available, it was considered that teams could well work within their own teams and standards of their home countries. Ultimately, precedence should therefore first be given to strengthening and formalizing existing cooperation before venturing to a greater exchangeability of staff. Nevertheless,

[36] Interview 3 – Local Ambulance Service – 10 May 2021.
[37] Interview 2 – Local Authority – 25 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 4 – Local Ambulance Service – 10 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[38] Interview 3 – Local Ambulance Service – 10 May 2021.
[39] Interview 3 – Local Ambulance Service – 10 May 2021; Interview 4 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021.
[40] Interview 6 – National Ministry – 17 May 2021.
[41] Interview 4 – Local Ambulance Service – 10 May 2021.
[42] Interview 4 – Local Ambulance Service – 10 May 2021.
[43] Interview 7 – Regional Ambulance Service – 26 May 2021.
[44] Interview 8 – Regional Authority – 26 May 2021.
[45] Interview 6 – National Ministry – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[46] Interview 9 – Local Hospital – 9 June 2021.

it is thereby important to emphasise that joint training was considered to be useful since teams can learn what to expect from teams across the border in terms of skills and competences.[47]

Another important issue brought forward by some of the stakeholders interviewed concerns matters related to **medical liability**.[48] In particular, this concerns the situation who is considered responsible in the event that a medical error is made in a cross-border situation. Other issues mentioned concern the transport of opiates,[49] use of optical and audio signals,[50] differences in communication systems,[51] the use of drones,[52] and privacy.[53] **Language differences and awareness of differences in terminology** was also to be considered an important obstacle, although it could be resolved relatively easily through dedicated language courses.[54]

A possible obstacle on which opinions were more divided concerns **insurance cover and the reimbursement of care**. Whereas some of the interviewees reported experiencing few difficulties,[55] others considered reimbursement to still be an issue.[56] One interviewee experiencing little difficulties considered that this could be due to most movements in the EMR taking place from the Netherlands to Germany where care is less expensive. Another interviewee considered issues concerning insurances to have occurred in the past but to have been mitigated, partly due to EU level provisions and the efforts of EMRIC. By contrast, parties still experiencing issues indicated that issues may still persist in light of EU legislation in this area. In particular, that system enables the reimbursement of emergency care when care is provided in the country where the accident occurs – something that may not occur in a cross-border region. Lobbying between health insurers and actors at national level appears to have largely mitigated this situation although it occasionally still presents itself.[57] A different stakeholder active at the national level considered that – at times – the impression is given that certain difficulties are especially rumoured and to a lesser extent actually experienced. These may then lead to apprehension (or even some level of intimidation) to cooperate cross-border since matters appear more complex than they are. When it came to the topic of insurances, that party reports having analysed issues related to reimbursement in-depth but having found that matters were

[47] In order to prevent language barriers from arising, it could thereby be useful to also provide dedicated language courses; Interview 9 – Local Hospital – 9 June 2021.
[48] Interview 1 – Partnership – 24 February 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[49] Interview 4 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[50] Interview 5 – Local Ambulance Service – 17 May 2021.
[51] Interview 6 – National Ministry – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[52] Interview 8 – Regional Authority – 26 May 2021.
[53] Interview 6 – National Ministry – 17 May 2021. As far as issues related to privacy are concerned, the main complexity concerns the sharing of patient data when operating cross-border. One initiative seeking to tackle this issue can be seen in the Dutch-German border region between Enschede and Gronau where a project is currently ongoing where patient data is digitally transmitted for cross-border care. More specifically, a declaration of intent was signed to effectuate such exchanges of patient data; see Ambulancezorg Nederland, 'Intentieverklaring voor grensoverschrijdende uitwisseling van patiëntgegevens', https://www.ambulancezorg.nl/nieuws/acute-zorg-zonder-grenzen. For more information on cooperation on the exchange of patient data see Ambulancezorg Nederland, 'Digitaal informeren werkt honderd procent efficiënter', https://www.ambulancezorg.nl/nieuws/'digitaal-informeren-werkt-honderd-procent-efficiënter'.
[54] Interview 2 – Local Authority – 25 February 2021; Interview 4 – Local Ambulance Service – 10 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[55] Interview 1 – Partnership – 24 February 2021; Interview 8 – Regional Authority – 26 May 2021..
[56] Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021.
[57] Interview 5 – Local Ambulance Service – 17 May 2021.

already resolved through cooperation with insurers whereby practical solutions were identified outside of complex formal procedures.[58]

2.3 Intensive Care Transport and Its Particularities

When it comes to Intensive Care (IC) transport, the first observation to make concerns its nature which is different from ambulance care as is currently taking place. Firstly, IC transport differs from ambulance transport because it generally concerns planned care.[59] More specifically, IC transport follows on contacts between hospitals whereas ambulance care concerns a life-threatening emergency situation. Secondly, different staff takes part in IC transport in the Netherlands. By contrast, in Germany the same personnel takes part in IC transport as in regular ambulance transport (i.e. driver, paramedic, and doctor).[60] In the Netherlands, IC transport staff has received hospital training.[61] this means that Mobile Intensive Care Units (MICUs) are occupied by a driver, IC nurse (with additional transport training), and an IC doctor (in essence the same team as works in the hospital).[62] Based on an earlier project, one interviewee also reported having established differences in the criteria to deploy IC transport between the Netherlands and Germany and the systems of IC transport (in Germany run by the city and not by the hospital as is the case in the Netherlands).[63] Apart from differences in staff, issues reported in the context of cross-border ambulance care such as language differences, questions concerning medical liability, reimbursement,[64] and tariffs of care[65] are furthermore also relevant.[66]

Taking a closer look at IC transport, it consists of three components – personnel, materials, and vehicles – that must work well interchangeably.[67] Furthermore, due to the lower frequency of transport it is currently not possible to have dedicated teams available.[68] Setting up a structured cooperation in IC transport could nevertheless be of added value due to the fact that IC transport involves expensive teams operating on relatively rare incidences.[69] Organising IC transport in a cross-border manner could therefore result in cost savings.[70] Indeed, IC transport was considered useful since the rarity of this type of transport also means that a limited back-up system is currently available.[71] Cross-border cooperation can therefore ensure sufficient care is available in border

[58] Interview 6 – National Ministry – 17 May 2021.
[59] Interview 5 – Local Ambulance Service – 17 May 2021.
[60] Interview 3 – Local Ambulance Service – 10 May 2021; Interview 9 – Local Hospital – 9 June 2021.
[61] Interview 4 – Local Ambulance Service – 10 May 2021.
[62] Interview 9 – Local Hospital – 9 June 2021.
[63] Interview 9 – Local Hospital – 9 June 2021.
[64] Different from ambulance care where questions related to reimbursement can usually be resolved due to the acute need for care, such a need is to a lesser extent present in the case of IC transport meaning that it is important to come up with an alternative motivation beyond necessity in a life-threatening situation; Interview 9 – Local Hospital – 9 June 2021.
[65] Differences exist in relation to the way tariffs are set and billing takes place. Nevertheless, it was considered that agreements made at higher administrative level between the Netherlands and Germany could perhaps ensure that derogations could apply in a cross-border context; Interview 9 – Local Hospital – 9 June 2021.
[66] Interview 4 – Local Ambulance Service – 10 May 2021; Interview 9 – Local Hospital – 9 June 2021.
[67] For example, in relation to materials different approaches are maintained in relation to the use may be made of materials. Whereas more changes of equipment may occur in Germany, in the Netherlands more use is made of similar materials during transport and in the hospital; Interview 9 – Local Hospital – 9 June 2021.
[68] Interview 9 – Local Hospital – 9 June 2021.
[69] Interview 7 – Regional Ambulance Service – 26 May 2021.
[70] However, this may not be the case in all border regions. One interviewee indicated that little IC transport took place in their border region (east of the Netherlands) due to the existence of a large trauma centre able to treat most serious cases; Interview 5 – Local Ambulance Service – 17 May 2021.
[71] Interview 4 – Local Ambulance Service – 10 May 2021; Interview 9 – Local Hospital – 9 June 2021.

regions. It may furthermore be beneficial to ensure patients are treated in the region as opposed to being sent further away within their own Member States.

The planned nature of IC transport was considered by some to facilitate cooperation.[72] However, others again indicated that it was challenging to organise IC transport during night time.[73] Added value was thereby seen in the organisation of IC transport via a central number, for example, so that IC transport could take place around the clock.[74] Reference was furthermore made to different types of medical transport of patients. Although life-threatening ambulance transport currently works well in a cross-border context, interclinical transport still faces challenges.[75] This concerns both regular hospital transfers by ambulance (low in complexity, high in volume) and IC transfers (high in complexity, low in volume). In this context, IC transport is mainly relevant for patients that are already in the IC and must be transferred in a stable manner to another specialised hospital.

Due to the difference in nature (emergency in a life-threatening situation vs. stable transport of complex patients), it was considered impossible to simply copy the model of cooperation currently applicable in ambulance care.[76] IC transport was therefore held to need a dedicated agreement. Hence, it was considered important to intensify existing cooperation. Efforts are, for example, undertaken to ensure that cooperation on IC transport can continue to take place with two separate teams that can be deployed cross-border to transfer patients.[77] Nevertheless, it was thereby also remarked that it is important to first solidify cooperation on emergency transport in both ambulances and IC to become available 24/7.[78] Consideration should thereby also be had for the possibility of equipping regular ambulances with certain equipment making them suitable for certain less complex IC transports. This would mean that IC transport vehicles could be reserved for truly complex IC patients. Such a system was indicated to already exist at national level but not yet in a cross-border context where the focus is strongly put on emergency care. More attention should be given in the future to establishing cooperation on planned transport (interclinical transport). In order to achieve an ideal scenario for care the following steps were thereby defined: (1) to set legal conditions for cooperation through structural agreements, (2) align financing systems in terms of billing and tariffs, (3) ensure cross-border emergency deployment in general, and (4) establish systems to safeguard the quality of care through monitoring and inspection.

2.4 The Influence of COVID-19 on Cross-border Cooperation on Ambulance and Intensive Care Transport

Following the interviews, the COVID-19 pandemic appears to have had limited impact on cross-border cooperation in ambulance care.[79] Cross-border movements mostly appeared to have continued in the case of life-threatening situations. Emphasis is again to be placed on the differences between types of

[72] Interview 4 – Local Ambulance Service – 10 May 2021.
[73] Between 11 PM and 7 AM; Interview 7 – Regional Ambulance Service – 26 May 2021.
[74] Interview 9 – Local Hospital – 9 June 2021.
[75] Interview 9 – Local Hospital – 9 June 2021.
[76] Interview 7 – Regional Ambulance Service – 26 May 2021.
[77] Interview 9 – Local Hospital – 9 June 2021.
[78] Interview 9 – Local Hospital – 9 June 2021.
[79] Interview 1 – Partnership – 24 February 2021; Interview 2 – Local Authority – 25 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 4 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021; Interview 7 – Regional Ambulance Service – 26 May 2021; Interview 8 – Regional Authority – 26 May 2021.

transport. Ambulance cooperation was able to continue during COVID-19 since the transport of COVID-19 patients took place via a completely separate trajectory (coordinated nationally).[80] Whereas "regular" patients could be transported across the border, COVID-19 patients could not be easily transported.[81] Indeed, the redistribution of COVID-19 patients was considered more problematic due to the necessary IC transport (of which a shortage was occasionally experienced).[82] Nevertheless, the COVID-19 pandemic was reported to have increased cooperation and institutional exchanges in IC transport.[83]

Although the pandemic therefore generally left existing cooperation unaffected, it is not surprising that the health crisis has had some effect on cross-border cooperation in ambulance and IC transport. Indeed, the health crisis has put cross-border cooperation under pressure since less efforts could be put towards strengthening cooperation.[84] Indeed, less trainings and exchanges could be organised due to the restrictive measures in place.[85] Some parties reacted to the measures by organising online learning sessions.[86] These were experienced positively since it allowed organisers to reach many interested professionals. Furthermore, some interviewees estimated that COVID-19 meant that cross-border movements diminished due to difficulties experienced in crossing the border. One interviewee reflected that ambulances would still try to keep patients "on their own side of the border" to limit challenges related to cross-border movements.[87] These mainly occurred early in the crisis, when cooperation with the Netherlands was temporarily and unilaterally halted from the German side.[88] Cooperation nevertheless soon resumed as COVID-19 relief measures became more similar on both sides of the border. In a similar vein, crossing the border became more complex when the Netherlands were considered a *Hochinzidenzgebiet* since ambulance personnel had to undergo frequent COVID-19 tests.[89] On a more practical note, personnel of course had to wear extra protective materials – which occasionally resulted in more difficulties communicating with patients because of the extra protective materials.[90] One interviewee thereby reported a difference in the experience of employees who generally experienced more fear in day-to-day activities in light of the pandemic.[91]

Nevertheless, some considered these less as additional obstacles, but rather a fact of the pandemic and re-nationalisation of crisis response policies.[92] Indeed, in relation to crisis management, different actors became active in efforts to combat the COVID-19 pandemic meaning that certain tasks were elevated from the local to the national level.[93] Nevertheless, the pandemic also showed that partners in the cross-border regions are able to easily find one another.[94] Indeed, the good relationship

[80] Interview 1 – Partnership – 24 February 2021; Interview 3 – Local Ambulance Service – 10 May 2021; Interview 6 – National Ministry – 17 May 2021.
[81] Interview 4 – Local Ambulance Service – 10 May 2021.
[82] Interview 7 – Regional Ambulance Service – 26 May 2021.
[83] Interview 3 – Local Ambulance Service – 10 May 2021.
[84] Interview 3 – Local Ambulance Service – 10 May 2021.
[85] Interview 5 – Local Ambulance Service – 17 May 2021.
[86] Interview 4 – Local Ambulance Service – 10 May 2021.
[87] Interview 4 – Local Ambulance Service – 10 May 2021.
[88] Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021.
[89] Interview 4 – Local Ambulance Service – 10 May 2021; Interview 8 – Regional Authority – 26 May 2021.
[90] Interview 3 – Local Ambulance Service – 10 May 2021; Interview 4 – Local Ambulance Service – 10 May 2021.
[91] Interview 3 – Local Ambulance Service – 10 May 2021.
[92] Interview 3 – Local Ambulance Service – 10 May 2021.
[93] Interview 8 – Regional Authority – 26 May 2021. See also B.J. Buiskool, J. van Lakerveld & M. Unfried, Covid-19 Crisis-management in the Euroregion Meuse-Rhine: Study on lessons learned of cross-border cooperation in the field of healthcare during the Pandemic crisis (study 1) – PANDEMRIC Final Report, August 2021.
[94] Interview 6 – National Ministry – 17 May 2021.

between partners, for example in the context of EMRIC, and awareness on each other's respective competences was considered to have kept negative effects of the COVID-19 pandemic relatively limited.[95]

2.5 Best Practices and Recommendations from Practice

Apart from experiencing considerable obstacles in relation to cross-border cooperation on ambulance and IC transport, the stakeholders consulted in the context of the interviews also pointed out various best practices and recommendations for the future. Overall, stakeholders indicated to have positive experiences in cooperating cross-border. Nevertheless, despite their positive experiences, some stakeholders confirmed that the present level of cooperation does not suffice.[96]

In this context, a first best practice to strengthen cooperation lies in **improving contacts among partners**. **Exchanges of best practices and networking** were considered the factors most necessary to be reinforced to provide high-quality care in a cross-border sense. One local ambulance service, for example, organised regular meetings with Dutch and German ambulance services and also organised joint trainings in the context of a past project.[97] Joint projects were furthermore considered a suitable means to create structured meetings to exchange experiences both nationally and locally.[98] Nevertheless, the challenge with the organization of projects is their temporary nature. An interviewee with experience doing projects to realize joint training found that organising the training was not complicated, but that the trainings had to be discontinued due to the project (and funding) coming to an end.[99] In this context, EMRIC was considered a best practice by an interviewee who highlighted its structural nature referring to other cooperation initiatives having ended in the past when funding ceased.[100] Returning to the organisation of joint training, such trainings or even internships where students could familiarise themselves with the opposite country's system were also organised by other stakeholders.[101] Indeed, another interviewee also indicated that, as far as competences were concerned, much was resolved by continued education and training.[102]

As far as exchanges and networking were concerned, this should take place at both the strategic as well as the operational level.[103] Where such meetings are already taking place, this usually happens at the local level. Nevertheless, plans exist to organise a roundtable bringing together ambulance services from different Dutch/German border regions.[104] Opinions were divided between the level at which such meetings should take place. Whereas some considered that national-level meetings could be too big and prevent border-region specific solutions from being adopted,[105] others considered that a national-level forum could – next to cross-border forums – help discuss casuistry, evaluate care trajectories, and identify improvements.[106]

[95] Interview 8 – Regional Authority – 26 May 2021.
[96] Interview 3 – Local Ambulance Service – 10 May 2021.
[97] Interview 3 – Local Ambulance Service – 10 May 2021.
[98] Interview 7 – Regional Ambulance Service – 26 May 2021.
[99] Interview 3 – Local Ambulance Service – 10 May 2021.
[100] Interview 8 – Regional Authority – 26 May 2021.
[101] Interview 2 – Local Authority – 25 February 2021.
[102] Interview 5 – Local Ambulance Service – 17 May 2021.
[103] Interview 7 – Regional Ambulance Service – 26 May 2021.
[104] Interview 8 – Regional Authority – 26 May 2021.
[105] Interview 6 – National Ministry – 17 May 2021.
[106] Interview 7 – Regional Ambulance Service – 26 May 2021.

The objective of such frequent meetings should then be to meet up regularly, create policy, adapt processes, make use of suitable materials, and organise joint trainings together. Efforts should thereby be undertaken to cooperate in such a manner on a structural basis. Particular attention should then be given to minimal tuning of existing systems to achieve a maximal effect. The conclusion of agreements was nevertheless considered important in this context.[107] At the moment, much of the cross-border cooperation taking place (outside of the EMR) takes place on the basis of good citizens' assistance – as opposed to on the basis of agreements or otherwise solidified structure. The need for formalization of cooperation was also highlighted by another interviewee who indicated that conversations were taking place with various actors in the Dutch/German border region.[108] However, before such formalization can take place, matters concerning legal basis, mutual recognition of diplomas, structural financing, reimbursement of care costs, issues concerning (medical) language knowledge, materials and techniques used by different ambulance services should also be resolved.[109] In this context, a best practice was reported by one interviewee who indicated that that local ambulance services at the Dutch-German border sought to align their protocols with both the standards set at the national level as well as those in the neighbouring country.[110] Such activities may help bridge differences in national systems.

Accordingly, a different interviewee noted that matters should be organised well and obstacles resolved from a legal perspective in order to be able to intensify cooperation.[111] A particular role was seen for the EU here as far as defining possibilities for exchanges in training across different systems. The interviewee particularly considered this to be in line with the vision of one Europe and should primarily be a top-down development. However, the idea of a Euregional standard was also considered highly useful – if allowed in light of national legislation.[112] The interviewee nevertheless believes the EMR partners are well on their way to cooperate across borders. Such cooperation should only be strengthened in future since borders should not play a role in Europe to save lives.

Following these different observations, one can conclude that bottom-up cooperation should be combined with top-down standards. Indeed, such a combination of bottom-up and top-down cooperation appeared to be the preferred method by several interviewees. One interviewee, for example considered it important to cooperate on education and training as a bottom-up means of cooperation.[113] However, such bottom-up cooperation should be supplemented by political lobby and awareness raising on the topic so as to also institute improvements top-down. Another interviewee also considered political cooperation essential to resolve issues at the administrative level.[114] More specifically, activities on the political, administrative, and legal level should be undertaken in addition to the regular exchanges at operational level (e.g. through projects). The quality of the present operational cooperation in the EMR was thereby highlighted, as was its importance in overcoming possible shortages of ambulances in the Netherlands and Belgium due to limited capacity of ambulances. Willingness was also held to be present at various administrative levels (both top-down

[107] Interview 7 – Regional Ambulance Service – 26 May 2021.
[108] Interview 5 – Local Ambulance Service – 17 May 2021.
[109] Interview 4 – Local Ambulance Service – 10 May 2021; Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021.
[110] Interview 5 – Local Ambulance Service – 17 May 2021.
[111] Interview 4 – Local Ambulance Service – 10 May 2021.
[112] Interview 4 – Local Ambulance Service – 10 May 2021.
[113] Interview 3 – Local Ambulance Service – 10 May 2021.
[114] Interview 4 – Local Ambulance Service – 10 May 2021

and bottom-up).[115] Whereas the top management was considered necessary to set targets, the operational level should focus on execution. Both approaches were thus considered necessary to achieve successful cooperation. By contrast, either of these possibilities alone was considered insufficient to achieve successful cooperation in ambulance care.

Apart from regular exchanges and combining top-down and bottom-up approaches, interviewees also considered consistency of personnel an important success factor. Indeed, the continuity of persons cooperating on cross-border cooperation was held to be important to enforce mutual trust.[116] Furthermore, having persons and organisations operating as drivers for cross-border cooperation – such as the role taken up by EMRIC – was considered crucial.[117] Having dedicated personnel who could work on cross-border cooperation was considered to play an important role in whether attempts at cooperation would be successful. In particular, some of the interviewees pointed to the high work pressure experienced by personnel who had to add the topic of cross-border cooperation to their regular tasks. Experience has shown that adding the large theme of cross-border cooperation to existing functions does not provide a solid basis for cooperation since insufficient progress may be achieved due to already being involved in other activities.[118] One of the interviewees indicated to work on a grant application to enable the organisation to have a dedicated project leader for cross-border cooperation.[119] Dedicated staff could help attribute more importance to cross-border cooperation in both normal as well as crisis times. Taken together with other factors such as sufficient financial resources and political willingness, the presence of a dedicated staff should help increase recognition of the importance of cross-border cooperation.[120]

Emphasis is therefore to be put on combining different forms of cooperation. Stakeholders furthermore identified steps that could be taken to gradually strengthen cooperation on ambulance care. For example, it was considered important to first focus on regular care after which cooperation on care in exceptional situations or major incidents could be strengthened.[121] Only after regular care was aptly organised could attention be given to working towards a full exchangeability of staff. The difficulty related to having to fulfil professional standards and protocols was considered too much for the present level of cooperation and thus to be kept as a future objective. In the shorter term, the ideal situation regarding cross-border cooperation on ambulance care was thereby considered to consist of having comparable equipment so that vehicles could be exchanged and staff could ride on either country's transport vehicles. In this way, comparability of equipment could lead to better exchangeability of staff.[122] Nevertheless, in order to further cooperation, agreements should thereby be made with neighbouring regions to determine how ambulances may be deployed cross-border. Reference is again made to the extent of European integration, which makes it impossible to argue that ambulances cannot cross the border.[123] However, agreements could ensure that current informal cooperation is formalised thereby providing unity of rules in a certain region thus increasing certainty.

[115] Interview 7 – Regional Ambulance Service – 26 May 2021.
[116] Interview 6 – National Ministry – 17 May 2021
[117] Interview 2 – Local Authority – 25 February 2021.
[118] Interview 8 – Regional Authority – 26 May 2021.
[119] Interview 5 – Local Ambulance Service – 17 May 2021.
[120] Interview 8 – Regional Authority – 26 May 2021.
[121] Interview 7 – Regional Ambulance Service – 26 May 2021.
[122] Interview 9 – Local Hospital – 9 June 2021.
[123] Interview 7 – Regional Ambulance Service – 26 May 2021.

3. Bridging National Systems: Existing Agreements & Opportunities for Cross-border Ambulance and Intensive Care Transport

The previous Section showed that current levels of cooperation are viewed positively, although stakeholders active in the field of ambulances and IC transport do consider intensification of cooperation desirable. A priority is thereby to ensure that cooperation can acquire a structural nature. Furthermore, it became clear that in the Dutch border regions with Belgium and Germany, different agreements exist depending on the border one is looking at. The present Section seeks to further examine existing agreements on ambulance and/or IC transport cooperation. Therefore, initiatives such as the Agreement applicable in the EMR and Benelux agreement will be examined in-depth. After examining these agreements, the focus is shifted to examining opportunities to structure cross-border cooperation in ambulance and IC transport by looking at instruments such as the Anholt Treaty and 2014 Benelux Treaty on cross-border cooperation.

3.1 Existing Agreements & Arrangements

3.1.1 Netherlands-Germany

The first example of an agreement on ambulance care between the Netherlands and Germany is, of course, the EMR **Agreement on Cross-border Neighbourly help in Ambulance Care (*Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening*)**. This EMR Agreement was concluded between the *Stadt Aachen*, *Städteregion Aachen*, *Kreis Heinsberg*, and the *GGD Zuid Limburg*. Accordingly, the EMR Agreement is applicable to the areas for which these areas are responsible.[124] The EMR Agreement itself is rooted in the EU Treaties as well as the Anholt Treaty and a Joint Declaration of the Ministries for Internal Affairs of the Netherlands and North Rhine-Westphalia and provides the basis for a structural cooperation.[125]

According to Article 1 of the EMR Agreement, its purpose is to guarantee that the fastest possible qualified medical assistance is provided in the case of a life-threatening danger. Essential in this respect is the fact that the national border cannot pose as an obstacle to the provision of care. The basic principle of this agreement is that the ambulance closest to the scene will provide assistance at the request of the local control room.[126] Following this provision, a request for assistance of a neighbouring ambulance is made if it is clear that the neighbouring ambulance can be at the scene sooner. The idea is therefore that the ambulance from the neighbouring country only provides life-saving assistance after which the further handling of a particular case is decided on by the local ambulance (after it has arrived on the scene). However, the responsible control rooms are able to establish further measures of an organisational/operational nature. Furthermore, during treatment and the subsequent possible transport to a hospital account is also had of the wish of the patient,

[124] Article 2(1) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[125] Indeed, the Agreement is automatically renewed every five years; Article 11 Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[126] Article 1(2)(a)(b) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.

presence of the necessary specialty in the hospital, the hospital's capacity, and treatment options in the area concerned.[127]

It is thereby important to note that cooperation takes place following national standards and protocols the ambulance staff adheres to.[128] More specifically, the legislation adhered to for the Netherlands concerns the *Wet Beroepen Individuele Gezondheidszorg* (Wet BIG), the *Wet Ambulancezorgvoorzieningen* (formerly the *Wet Ambulancevervoer*), and the relevant protocols on ambulance care. For Germany, the legislation and standards applied concern the *Rettungsgesetz NRW* and protocols set by the *Bundesärztekammer*. Doctors are thereby competent to give directions when it comes to medical matters. Essential part of the Agreement is the mutual recognition clause taken up in Article 1(2)(d) of the Agreement which states that "participants to the agreement recognise the mutual legislative standards concerning the staff deployed" and that participants "assume that the vehicles and their technical equipment are professionally suitable". To ensure familiarity with one another's systems, a training programme is to be established by the cooperating partners.[129]

As far as liability is concerned, the EMR Agreement indicates that participants to the agreement are aware that "there are national laws and regulations concerning liability in the area of staff deployment and participation in road traffic, both with regard to individual situations and public deployment".[130] More specifically, national legislation of the country in which care is provided applies (for example, in the event of medical errors) and participants to the agreement are to be insured for the care they provide in the neighbouring country.[131] Any damage occurring as a result of the cooperation shall not be attributed to the cooperating partners unless it is suffered by a third party.[132]

3.1.2 Benelux

The Benelux the Decision on Cross-border Emergency Ambulance Transport (*Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer*) applies to the Dutch-Belgian border regions. The Decision was adopted following the observation that issues concerning recognition of qualifications, organization of care, communication and communication technology, as well as tariffs prevented an adequate organization of ambulance care.[133] One primary example between the two systems concerns the level of care to be provided. In the Netherlands, ambulances can provide advanced life support while Belgian ambulances can merely provide basic life support. In addition, the Belgian ambulance can only

[127] Article 3(1) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[128] Article 1(2)(c) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[129] Article 9 Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[130] Article 7 Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[131] Article 8(1) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[132] Article 8(2)(3) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[133] Memorie van Toelichting bij Beschikking M(2009) 8 van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, p. 6.

transport patients to hospitals that have been recognized in the Belgian 100 system,[134] something causing delays since Belgian ambulances could not transport patients to Dutch hospitals. Apart from resolving such issues, the Decision sought to provide a higher-level framework that was to cover local agreements. More specifically, the explanatory memorandum to the Decision indicates that many local agreements had been adopted that could not provide a definitive solution.

As is the case for the EMR Agreement, the Benelux Decision provides a basis for cross-border ambulance care in case of emergency situations.[135] The transport of the patient is thereby possible, but only if necessary. Dutch ambulances must be deployed at the request of the relevant Belgian control room and vice versa.[136] Similar to the EMR Agreement, the Benelux Decision also includes a mutual recognition clause indicating that if an ambulance fulfils legal standards in the home country, it is considered equal to an ambulance in the host country.[137] This mutual recognition is also extended to the ambulance vehicles and technical equipment.[138] Furthermore, ambulance professionals called to the scene of an accident in the neighbouring country are competent to carry out the activities they may carry out in their home country.[139]

Looking into matters concerning liability, the Benelux Decision establishes that civil liability is governed by the legislation applicable in the host country.[140] This means that, in the event of medical errors, it is the legislation of the country where the medical care was provided that applies. Costs associated with the provision of care are charged by the ambulance of the neighbouring country in the country in which care is provided.[141] Interestingly, the Benelux Decision also includes provisions on communication technology. More specifically, the Governments of the Netherlands and Belgium[142]

[134] In order to overcome this issue, agreements going back as far as the parliamentary year 2001/2002 have been made through which Dutch hospitals were to be recognized in the context of the Belgian system if they fulfilled the Belgian criteria. In the EMR, the Maastricht University Medical Centre is the only hospital recognized in the Belgian 100 system thus far; see *Kamerstukken II* 2001/02, 28008, nr. 9, p. 3; M. Ramakers and T. Bindels, Grensoverschrijdende spoedeisende medische hulpverlening in de Euregio Maas-Rijn: Wet- en regelgeving, overeenkomsten en afspraken met betrekking tot de grensoverschrijdende ambulancezorg in de Euregio Maas-Rijn, Maart 2006, p. 40; M. Unfried, Ambulances without Borders: towards sustainable cooperation between emergency services, B-solutions Advice Case for the Municipality of Woensdrecht, February 2020, p. 20.

[135] Article 1(2) Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[136] Article 3(1)(2) and Article 4(1)(2) Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[137] The legislation cited thereby concerns the *Wet op het Ambulancevervoer* in the Netherlands and the *Wet 8 juli 1964 betreffende de dringende geneeskundige hulpverlening* in Belgium; Article 5 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[138] Article 11 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[139] Article 6 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[140] Article 7 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[141] Article 3(3) and Article 4(3) Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8. The provisions of the Decision were supplemented in 2014 by a Financial regulation providing additional information on how costs were to be reimbursed. The Financial regulation provides detailed instructions and scenarios on how reimbursement should take place; Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8 – Financiële regeling betreffende de wijze waarop de kosten van de grensoverschrijdende inzet van de ambulances in rekening worden gebracht (artikelen 3 en 4 van de Beschikking), Omzendbrief VI nr. 2014/216 van 23 mei 2014.

[142] N.B. Luxembourg is excluded from the application of the Benelux Decision. The explanatory memorandum to the Decision provides some explanation as to why indicating that – contrary to Belgian/Luxembourg situation, the systems of

were urged to ensure exchangeable communication systems were used following Article 9 of the Decision. To ensure that possible future obstacles to cross-border ambulance cooperation are resolved, the Benelux Decision also includes a provision through which the national Governments have committed themselves to resolving new or remaining issues.[143] This provision has, for example, been used to set a financial regulation determining how costs should be reimbursed.[144] Finally, the Decision also provides the basis for structural cooperation.[145]

3.1.3 Belgium-Germany (Rhineland-Palatinate)

Apart from the EMR Agreement and Benelux Decision, the *rendez-vous* system for ambulance care in life-threatening emergencies can also be seen between Belgium and Germany (Rhineland-Palatinate) where an agreement also exist to structure such cooperation.[146] This Agreement is supplemented by several operative and financial regulations setting further rules. When the *Bundesland* Rhineland Palatinate and the Kingdom of Belgium signed the Agreement, they also committed themselves to resolve possible difficulties through additional regulations.[147]

The Belgian-German Ambulance Agreement indicates that the deployment of German/Belgian rescue equipment takes place in compliance with the legislation of the neighbouring country (in case of cross-border movements, the country where care is provided).[148] In relation to liability the legislation applied is also that of the country in which emergency care is provided.[149] Furthermore, the parties recognise that their respective emergency services and the equipment used fulfil the criteria set in the Belgian-German Agreement.[150]

Nevertheless, when it comes to the activities conducted in the neighbouring country, the Agreement establishes that emergency services from each of the respective countries is able to carry out only those activities for which they are competent in their home country.[151] It also follows from the Belgian-German Ambulance Agreement that the transport to the hospital after emergency care was provided

the Netherlands and Belgium differ; see Article 16 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8 and Memorie van Toelichting bij Beschikking M(2009) 8 van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, p. 6.

[143] Article 14 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[144] See also footnote 139 and Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8 – Financiële regeling betreffende de wijze waarop de kosten van de grensoverschrijdende inzet van de ambulances in rekening worden gebracht (artikelen 3 en 4 van de Beschikking), Omzendbrief VI nr. 2014/216 van 23 mei 2014.

[145] Article 17(1) Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.

[146] Article 2 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.

[147] Article 14 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.

[148] Article 3(3) and 4(3) Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.

[149] Article 8 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.

[150] Article 6 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.

[151] Article 7 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.

is done by a local ambulance. [152] Patients are thereby to be transported only to hospitals competent for treating emergencies within the areas concerned by the Agreement (i.e. the Province of Liège for Belgium and the *Bundesland* Rhineland Palatinate for Germany).[153]

As far as communication is concerned, the Belgian and German control rooms are to establish joint operating procedures and use suitable materials to achieve such communication.[154] When it comes to the vehicles, these are to be equipped following provisions set by national legislation to also be deployed in the neighbouring country.[155]

3.2 Opportunities for Regional Agreements on Cross-border Ambulance Care

On the basis of the input received from interviewees it became clear that one of the main issues concerning cross-border cooperation in ambulance and intensive care transport concerned systemic differences. Overcoming these through dedicated agreements was considered an important way to achieve structural cooperation in these fields. At the same time, it was also reported that the current legal framework provides sufficient opportunities to strengthen cooperation in ambulance care. Indeed, various instruments can be identified to structure cross-border cooperation. These range from the European (e.g. the Madrid Outline Convention) to the regional (Benelux Decision) or even local levels.

In general, the conclusion of local agreements with the objective of strengthening neighbourly relationships is very much to be encouraged in the context of the Madrid Outline Convention.[156] Particular account is thereby to be had of the national jurisdictions and competences.[157] Moreover, an active stance must be taken to resolve obstacles of a legal, administrative, or technical nature which may prevent the development and smooth running of cross-border cooperation.[158] However, this does not establish a right for local authorities to cross-border cooperation.[159] Nevertheless, the Convention at least opens the way for the adoption of further agreements at the national level to organise matters between local communities and authorities.[160] Furthermore, authorities in border regions have obtained a right to conclude certain agreements – under designated conditions.[161]

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[152] This can be deduced from the fact that transport after treatment of emergency services takes place following the legislation of the country where care is provided; see Article 9 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.
[153] Aritcle 9(2) and Annex 1 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.
[154] Article 10(2)(3) Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.
[155] Article 12 Deutsch-belgisches Abkommen über die dringende medizinische Hilfe / Rettungsdienst zwischen dem Land Rheinland-Pfalz und dem Königreich Belgien, May 2009.
[156] Article 1 and 2(1) European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities, ETS. – No. 106, Madrid, 21 May 1980.
[157] Article 1 and 2(1) and 3(4) European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities, ETS. – No. 106, Madrid, 21 May 1980.
[158] Article 4 European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities, ETS. – No. 106, Madrid, 21 May 1980.
[159] H. Schneider et al., Stattuut voor Limburg? Final Report – project phase 1 (EN), ITEM Maastricht, 9 November 2018, p. 58-59.
[160] Ibid., p. 59.
[161] Ibid., p. 64. See also Additional Protocol to the European Outline Convention on Transfrontier Co-operation between Territorial Communities or Authorities, ETS – No. 159 Strasbourg, 9 November 1995.

As indicated above, the Madrid Outline Convention encourages participating countries to adopt additional agreements. One example of a follow-up agreement adopted on the basis of the Madrid Outline Convention which has further formed the framework for cooperation in the EMR is the Anholt Treaty concluded between the Netherlands, Germany, Lower Saxony, and North Rhine-Westphalia. The strength of that Treaty lies in its possibility for public authorities to institutionalise their joint cross-border activities by creating cross-border public bodies.[162] Additionally, territorial communities or authorities can also cooperate by having one territorial community or authority take over tasks of another similar body under the latter's instruction.[163] Indeed, these provisions can be considered to have constituted the basis for the EMR Agreement on ambulance cooperation and indeed appear particularly suitable to organise cooperation on emergency care (at least between the Netherlands and Germany).

Another agreement closely resembling the Anholt Treaty is the Agreement between North Rhine-Westphalia, Wallonia, and the German-speaking Community of Belgium. It provides similar cooperation possibilities to the Anholt Treaty and was also based on the Madrid Outline Convention.[164] Another similar agreement allowing for either the creation of a body or for the transmission of tasks from one authority to another can be found in the 2014 Benelux Treaty.[165] In fact, the German-Belgian Agreement, Anholt, and Benelux Treaties all establish that – in the case one authority takes over tasks from another on the other country's territory – the applicable law is that where activities are carried out.[166]

Whereas the Benelux and Anholt Treaties cover the whole Dutch border with Belgium and Germany, the German-Belgian Agreement covers the border between those two states. Therefore, taken together, these different Agreements and Treaties provide a framework enabling actors in the EMR to strengthen cooperation on ambulance and intensive care transport. Within these instruments, provisions enabling authorities to take over tasks from one another can be considered particularly relevant to further cooperation on ambulance care along the Dutch borders with Belgium and Germany.

3.3 Interim Assessment Opportunities for Cooperation

A general comment that can be made based on the analysis of the selection of existing agreements above is that they primarily concern the cross-border deployment of ambulances in emergency situations, thus confirming the findings from the interviews that other forms of medical transport of

[162] Ibid., p. 60.
[163] Article 6 Overeenkomst tussen het Koninkrijk der Nederlanden, de Bondsrepubliek Duitsland, het Land Nedersaksen en het Land Noordrijn-Westfalen inzake grensoverschrijdende samenwerking tussen territoriale gemeenschappen of autoriteiten, Isselburg-Anholt, 23 mei 1991.
[164] Abkommen zwischen dem Land Nordrhein-Westfalen, dem Land Rheinland-Pfalz, der Wallonischen Region und der Deutschsprachigen Gemeinschaft Belgiens über grenzüberschreitende Zusammenarbeit zwischen Gebietskörperschaften und anderen öffentlichen Stellen, v. 19. Juli 1996, mit Stand vom 1. August 2021.
[165] Article 18 Benelux-Verdrag inzake grensovershcrijdende en interterritoriale samenwerking 2014.
[166] Article 6(5) Abkommen zwischen dem Land Nordrhein-Westfalen, dem Land Rheinland-Pfalz, der Wallonischen Region und der Deutschsprachigen Gemeinschaft Belgiens über grenzüberschreitende Zusammenarbeit zwischen Gebietskörperschaften und anderen öffentlichen Stellen, v. 19. Juli 1996, mit Stand vom 1. August 2021; Article 6(5) Overeenkomst tussen het Koninkrijk der Nederlanden, de Bondsrepubliek Duitsland, het Land Nedersaksen en het Land Noordrijn-Westfalen inzake grensoverschrijdende samenwerking tussen territoriale gemeenschappen of autoriteiten, Isselburg-Anholt, 23 mei 1991; Article 18(5) Benelux-Verdrag inzake grensovershcrijdende en interterritoriale samenwerking 2014.

patients are not yet organised structurally. Additionally, it must be considered that, even in the event of formal agreements structuring cooperation, cooperation at the operational level may still experience obstacles. Such became apparent from the interviews when interviewees reported that, despite the existing agreements on cross-border ambulance care in emergency situations, differences in the education and training of ambulance professionals were still to be considered a core bottleneck.

Other evidence to support this finding can be found in a 2020 study examining cooperation on ambulance care with several municipalities in the Dutch-Belgian border region. That study found that, despite extensive efforts and the existence of the Benelux Decision, no structural cross-border intervention of ambulance services took place.[167] Nevertheless, that study also showed that many of the legal obstacles experienced could be covered by the Benelux Decision, leading to the conclusion that most remaining obstacles were non-legal in nature and could be attributed to deficiencies in the coordination and cooperation between stakeholders.[168] This is consistent with some of the results of the interviews conducted in the context of this study, namely that the most important precondition for successful cooperation was knowing each other and having regular exchanges. In fact, the only issue of a legal nature identified in the 2020 study that needed to be resolved by additional legal action concerned the fact that Dutch hospitals were not taken up in the Belgian list of registered emergency units.[169] Accordingly, the report found that the most important steps to take to ensure cooperation could be initiated between the Belgian and Dutch municipalities were (1) the creation of a permanent coordination office, (2) the establishment of a cooperation committee for ambulance care, and (3 conducting a needs analysis and ensuring certain preconditions for cooperation are fulfilled.[170]

Apart from assessing existing agreements on emergency transport in ambulance care, this Section also showed that a considerable legislative framework exists for the facilitation of cross-border cooperation. Within these Treaties and Agreements, particular provisions exist for the creation of either cross-border public bodies or for the creation of further agreements for authorities in border regions to delegate tasks to one another. When it comes to enhancing cooperation on ambulance and IC transport along the Dutch borders with Belgium and Germany, particular attention should be given to the possibility to for authorities to conclude further agreements to delegate tasks to one another. The reason to give priority to this form of cooperation over the creation of a public body is two-fold: first, the present cooperation is based on these types of arrangements. Second, no expressions were made in the interviews conducted in the context of this study pleading in favour of the creation of a body dedicated solely to advancing cooperation on the medical transport of patients.

Since it has become clear what practical obstacles exist, what existing arrangements on ambulance care are, and what the legislative framework is to structure cross-border cooperation along the Dutch borders, the focus should now be shifted to the national level. Indeed, the interviews showed that differences coming from the way national systems for ambulance and IC transport are structured are the root cause of many obstacles experienced. The following Section will therefore explore national legislation and policy applicable to ambulance and IC transport. A comparative analysis will thereby

[167] M. Unfried, Ambulances without Borders: towards sustainable cooperation between emergency services, B-solutions Advice Case for the Municipality of Woensdrecht, February 2020.
[168] Ibid., p. 16.
[169] Ibid.
[170] Ibid., p. 18-21.

be conducted to show the exact nature of systemic differences thereby enabling recommendations to be proposed for their resolution.

4. A Three-Country Comparison of Professions & Practices in Medical Transport: The Euregio Meuse-Rhine

Over the course of the previous Sections, it has become clear that many of the obstacles experienced in practice are located in systemic differences coming from the way national systems for ambulance and IC transport are structured. The present Section therefore delves into the national systems of the Netherlands, Belgium, and Germany (North Rhine-Westphalia). Following the interviews, the focus in the following Sections will be placed on provisions governing the following topics: types of medical transport of patients, professional regulation, qualifications and recognition thereof, insurance cover, and technical requirements.

4.1 Netherlands

In January 2021, new legislation entered into force in the Netherlands on ambulance care *(*the Ambulance Care Facilities Act, *Wet Ambulancezorgvoorzieningen*). Ambulance care consists of, among others, care provided by ambulance nurses or other ambulance care professionals to the scene of an emergency, or the transport of a patient, with a specially equipped and recognisable vehicle.[171] Regional Ambulance Services (*Regionale Ambulancevoorzieningen – RAVs*), appointed by the Minister of Health, Welfare and Sport,[172] are designated bodies responsible for ambulance services. The RAVs provide operational management of emergency ambulance care, and non-emergency ambulance care in its region. Furthermore, it is the overall responsibility of the RAV's to provide care of good quality; care that is safe, effective, efficient, provided in a timely manner and tailored to the real needs of the patient, as set out in the Healthcare Quality, Complaints and Disputes Act (Wkkgz).[173] Currently, there are 25 RAVs in the Netherlands.[174] Furthermore, the RAV's must ensure that 97% of the population can be reached in 12 minutes, whereas overall reachability is set at 15 minutes.[175]

It is prohibited for parties other than the regional ambulance service to provide ambulance care, except those competent to provide ambulance care pursuant to an agreement with the RAV.[176] An exception is provided for cross-border ambulance care provided by Belgian ambulances (under the 2009 Benelux Decision) or by German ambulances, when agreements are made between the RAV and German ambulance services (such as those applicable to the EMR).[177] Further requirements for the RAV's can be set my a ministerial regulation, whereby requirements may vary by region.[178] To ensure the provision of good care, the RAV may have written agreements with partners in the acute care chain, neighbouring regional ambulance facilities (in light of an open border approach and mutual

[171] Article 5 Wet ambulancezorgvoorzieningen.
[172] Article 8 Security Regions Act.
[173] Wet kwaliteit, klachten en geschillen zorg 2016 (Wkkgz).
[174] Article 2 Wet ambulancezorgvoorzieningen.
[175] Article 4 Regeling ambulancevoorzieningen.
[176] Article 6 Wet ambulancezorgvoorzieningen.
[177] Article 17 Regeling ambulancevoorzieningen
[178] Article 8 Wet ambulancezorgvoorzieningen.

assistance), Belgian or German emergency rooms[179] and ambulance services if the region of RAV borders the region of a foreign ambulance service.[180]

4.1.1 Distinguishing Different Types of Medical Transport of Patients

In the Netherlands, emergencies are classified according to different levels, which determines the type of ambulance that is sent to the scene of the emergency. Emergencies may be classified into A1-emegencies (life-threatening situation, with a response time of less than 15 minutes),[181] A2-emergencies (situations that are not life-threating but require urgency with a response time of a maximum of 30 minutes) and type B transport for non-urgent patients.[182]

The ambulance can include specialised staff based on the care that is needed. Next to **regular ambulance care**, there are units of **intensive care** (MICU), **paediatric intensive care** (PICU), **neonatal intensive care** (NICU) and **mobile medical teams** (MMT).[183] Apart from ambulances, regions may use **rapid responders**, which are acute care units, who are equipped with providing emergency care but who do not transport patients. Staffed by an ambulance nurse, the rapid responders often work in collaboration with other ambulances.[184] Furthermore, next to the distinction of emergency and non-emergency situations, ambulance care may be classified to situations requiring low, medium, and high complex care.[185]

The **(regular) ambulances** in the Netherlands are staffed with an ambulance driver and an ambulance nurse. Next to the staff within the ambulance, the role of the nurse dispatcher (*verpleegkundig centralist meldkamer ambulancezorg*) is also important – they are responsible for referring the care forward to the ambulances.[186] In **intensive care** transport (for instance in MICUs), a specialist team of an IC nurse, driver and doctor is deployed. Similarly, **MMT unit teams** consists of a doctor, and a medical specialist from the department of intensive care. MMTs may also be deployed in a trauma helicopter together with a pilot.[187]

As ambulance nurses have experience in emergency or intensive care departments, they are often pooled from the same group as emergency and IC nurses. As a result, there is a growing demand for personnel with this background. Furthermore, not all ambulance care (for instance planned transport) requires intensive monitoring or treatment. As a solution to combat labour shortages and increased

[179] For instance, a guideline has been adopted on the cross-border communication in emergency medical assistance when Dutch ambulances are deployed in Germany and Belgium. The request for assistance from DE/BE goes through the dispatch centre in the Netherlands (MKA): Ambulanzezorg Nederland, 'Richtlijn Grensoverschrijdende communicatie bij spoedeisende medische hulpverlening door Nederlandse ambulancevoertuigen in Duitsland en Belgie' August 2009.
[180] Article 8 Regeling ambulancevoorzieningen.
[181] Article 1 Regeling ambulancevoorzieningen.
[182] Ambulanzezorg Nederland, 'Kwaliteitskader Ambulanzezorg 1.0', October 2019. Pp. 13-14 .
[183] Article 1 Regeling ambulancevoorzieningen.
[184] Ambulancezorg Nederland, 'Rapid responders' https://www.ambulancezorg.nl/en/themes/ambulance-care-in-the-netherlands/the-ambulance-care-product/rapid-responder.
[185] Article 7 Regeling ambulancevoorzieningen.
[186] Article 5(1)a Wet ambulancezorgvoorzieningen, College Zorg Opleidingen, 'Opleidingseisen van de opleiding tot verpleegkundig centralist meldkamer ambulancezorg' 10 October 2018.
[187] Interview 9 – Local Hospital – 9 June 2021, Interview 5 – Local Ambulance Service – 17 May 2021.

pressure on healthcare, a new sectoral framework was adopted in 2020[188] providing the possibility for the RAVs to differentiate non-emergency ambulance care into low and middle complex care. The differentiation allows the customization of care to the patient's needs, and improves quality, safety, and efficiency of ambulance care.[189]

This form of differentiation of the care has proven to be helpful in the Gelderland-Central and Gelderland-South region, for example. Because of the region's aging population and rising demand for healthcare, there is a significant demand for ambulances to transport patients as well as to keep ambulances ready for emergency situations. Before the amendment, two types of ambulances were deployed: an advanced life support ambulance (ALS) and a care ambulance for non-emergency transport where no vital monitoring or treatment was needed (low complex care). However, in cases where monitoring or treatment during the transport were required, an ALS ambulance was deployed. Now, the medium complex ambulance may be deployed for those situations, leaving more room for ALS to treat emergency cases.[190]

The new Ambulance Care Facilities Act also indicates that ambulance care may be provided by ambulance nurses and *ambulance care professional*s.[191] The notion is more inclusive, as in addition to ambulance nurses, nurse specialists, physician assistants and those with a bachelor's degree in medical assistance, may work in ambulance care, depending on the complexity of the situation.[192]

In situations of **low-complex care** (consisting of transport of patients between healthcare institutions or residence of the patient),[193] in addition to the driver, a healthcare assistant (*verzorgende IG*) is deployed performing standard procedures with patients of stable vital signs in predictable, non-life-threatening situations.[194] For **medium-complex care** (that requires more complex care, for instance pain relief or rhythm monitoring),[195] the ambulance may be staffed by a medium-complex ambulance nurse (*verpleegkundige middencomplexe ambulancezorg*) and a driver (*chauffeur laag- en middencomplexe ambulancezorg*).[196] Both low and medium-complex ambulance care follow a protocol on actions that may be undertaken in these situations.[197] For **high complex situations**, by contrast, next to ambulance nurses, nurse specialists or physician assistants may now also be deployed under national pilot programmes.[198] Although high complex situations may be used in emergencies,

[188] Ambulancezorg Nederland, 'Nieuw kwaliteitskader laag- en middencomplexe ambulancezorg biedt ruimte voor differentiatie' https://www.ambulancezorg.nl/nieuws/nieuw-kwaliteitskader-laag-en-middencomplexe-ambulancezorg-biedt-ruimte-voor-differentiatie.
[189] AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 6.
[190] Acute Zorgregio Oost, 'Start middencomplexe ambulance per 1 juni' https://acutezorgregiooost.nl/nieuws/start-middencomplexe-ambulance-per-1-juni/.
[191] Article 5 Wet ambulancezorgvoorzieningen.
[192] Article 7 Regeling ambulancevoorzieningen. For example, those who have completed Bachelor of medical assistance (Bachelor Medische Hulpverlener BMH) can after completion of a trainee-programme be deployed in low or middle-complex ambulance care. See Ambulancezorg Nederland, 'Nieuw kwaliteitskader laag- en middencomplexe ambulancezorg biedt ruimte voor differentiatie' https://www.ambulancezorg.nl/nieuws/nieuw-kwaliteitskader-laag-en-middencomplexe-ambulancezorg-biedt-ruimte-voor-differentiatie footnote 16.
[193] AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 6.
[194] Article 7(5) Regeling ambulancevoorzieningen, AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 7.
[195] AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 7.
[196] Article 7(4) Regeling ambulancevoorzieningen
[197] AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 15
[198] Article 7(2) Regeling ambulancevoorzieningen. Ambulancezorg Nederland, 'Toelichting op de wet ambulancevoorzieningen' https://www.ambulancezorg.nl/nieuws/toelichting-op-de-wet-ambulancevoorzieningen,

the personnel may be deployed to perform all types of complexity of care. Table 1 below summarises the different main categories of ambulance and IC transport and the staff deployed.

	Ambulance care			
	Non-emergency care		**Emergency care**	**Intensive ambulance care**
	Low-complex	Medium-complex	High-complex	
Ambulancechauffeur	x	x	x	x
Chauffeur laag- en middencomplexe ambulancezorg	x	x		
Ambulanceverpleegkundige	x	x	x	x
Verpleegkundige midden-complexe ambulancezorg	x	x		
Verzorgende IG laag-complexe ambulancezorg	x			
Specialist team and/or doctor				x

Table 1: Main categories of ambulance care and corresponding professionals in the Netherlands[199]

4.1.2 Professional Regulation, Qualifications & Recognition

The present Section seeks to provide additional information on the training and experience each of the professionals involved in different the different types of ambulance care should have to be able to provide such care. The different professionals seen in ambulance care are organised by type of care ranging from the most complex to the least complex. After providing a brief overview of training, attention is given to the topic of the recognition of qualifications and especially how professionals with qualifications from neighbouring countries are able to carry out their profession in the Netherlands.

Specialist Team

Part of the specialist team deployed in, for example, intensive care transports may consist of emergency doctors or other medical specialists together with nurses who are specialised working in intensive care. These professionals may cooperate with the professionals deployed in regular ambulance care (i.e. ambulance nurses and ambulance drivers – see below for more information).

'Raamwerk ambulancezorg: juiste zorg door juiste zorgverlener' https://www.ambulancezorg.nl/nieuws/raamwerk-ambulancezorg-juiste-zorg-door-juiste-zorgverlener.

[199] Please note that the table is merely a simplification of ambulance care in the Netherlands. Emergency situations may also involve situations with lower complexity tasks carried out by the ambulance personnel – and plannable ambulance care may also involve situations of higher complexities, for instance in case of ICU transfers. See also the Framework on Ambulance care https://www.ambulancezorg.nl/nieuws/raamwerk-ambulancezorg-juiste-zorg-door-juiste-zorgverlener.

Emergency Doctor or Medical Specialist

When it comes to emergency doctors and other medical specialists, training consists of several steps. One commonality among all medical specialists is that they have first completed basic medical training to become *basisarts* in the Netherlands. Accordingly, they will have pursued training in accordance with the Individual Healthcare Professions Act (Wet *Individuele Gezondheidszorg – Wet BIG*).[200] It is that same Act that requires doctors who have completed their basic medical training to register in the BIG register. Upon their registration, doctors may continue to pursue specialist medical training. Once specialist training is completed, most medical specialists register in a dedicated register.[201] Whereas some of these medical specialisations are recognised specialties (meaning the professional title is legally protected under public law), this is not the case for all specialties.[202] For example, emergency medicine is not yet considered to be a medical specialty.[203] Instead, it is currently considered a profile which means that although dedicated training recognised by the Royal Dutch Medical Association is pursued, the professional title is not legally protected under public law.[204] Nevertheless, dedicated training is pursued and – once completed – candidates must register in the dedicated register for emergency doctors (i.e. the Royal Dutch Medical Association protects the title from a private law perspective).[205] Training as an emergency doctor lasts three years in which theoretical training is combined with practical training through internships in, among others, intensive care, anaesthesiology, cardiology, and ambulance care.[206]

Nurse Specialised in Intensive Care

Much similar to doctors, nurses with a specialisation in intensive care also pursue training in two steps. The first step thereby concerns training as a general care nurse in accordance with the Individual Healthcare Professions Act after which they must register in the BIG register.[207] Following this legislation, training as a general care nurse comprises at least 1535 hours of theoretical and 2300 hours of practical training.[208] After this they may pursue training in intensive care at an accredited institution. In this training, emphasis is put on gaining practical experience. Hence, candidates must be employed at an accredited healthcare institution.[209] Accordingly, intensive care nurses pursue at

[200] Article 1 io. 18-19 Wet Individuele gezondheidszorg (WET BIG) and the Besluit opleidingseisen arts.
[201] Article A.3. Besluit van 13 maart 2019 houdende de algemene Eisen voor de opleiding, registratie en herregistratie voor de geneeskundig specialist en voor de erkenning van opleiders, opleidingsinstellingen en opleidingsinstituten (Kaderbesluit CGS).
[202] For an overview of the current medical specialties for which registers exsist, see Besluit van 13 maart 2019 houdende de algemene Eisen voor de opleiding, registratie en herregistratie voor de geneeskundig specialist en voor de erkenning van opleiders, opleidingsinstellingen en opleidingsinstituten (Kaderbesluit CGS).
[203] Although activities are currently being undertaken to have emergency medicine be recognized as an independent medical specialty. See KNMG, 'Spoedeisende geneeskunde: Aanvraag erkenning spoedeisende geneeskunde als medicshc specialisme', https://www.knmg.nl/opleiding-herregistratie-carriere/cgs/themas-projecten/spoedeisende-geneeskunde-2.htm.
[204] See KNMG, 'Spoedeisende Geneeskunde', https://www.knmg.nl/opleiding-herregistratie-carriere/geneeskundestudie/overzicht-opleidingen-1/beroepskeuze-spoedeisende-geneeskunde/spoedeisende-geneeskunde.htm and Besluit van 9 januari 2013 houdende opleidings- en erkenningseisen voor het profiel Spoedeisende geneeskunde (Besluit Spoedeisende geneeskunde).
[205] See Article A.3.(1) Besluit van 9 januari 2013 houdende opleidings- en erkenningseisen voor het profiel Spoedeisende geneeskunde (Besluit Spoedeisende geneeskunde).
[206] NVSHA, Curriculum opleiding tot Spoedeisende Hulp Arts, Versie 2014.
[207] Article 1 io. 32-33 Wet Individuele gezondheidszorg (WET BIG) and the Besluit opleidingseisen verpleegkundige 2011.
[208] Article 3(12) Besluit opleidingseisen verpleegkundige 2011.
[209] See College Zorgopleidingen, Opleidingseisen van de opleiding tot intensivecareverpleegkundige: Deskundigheidsgebied en eindtermen, 1 februari 2020, p. 12.

least 217 hours of theoretical training and 2000 hours of practical training. Although intensive care nurses therefore pursue accredited training, the profession of intensive care nurse is not a legally protected title.[210] Although a quality register exists and is managed by the professional association for nurses (V&VN), registration is not (yet) mandatory.[211]

Regular Ambulance Care

Ambulance nurse

As far as the ambulance nurses are concerned, BIG-registered nurses[212] with an employment contract with an RAV may apply to become an ambulance nurse (*ambulanceverpleegkundige*). The education of ambulance nurse is provided at certified training institutes. For instance, the *Academie voor Ambulanzezorg* provides the education for a period of seven months, consisting of a theoretical part and a supervised internship.[213] Next to this relatively new "long-track" of education, BIG-registered nurses with diplomas in emergency care, intensive care or anaesthesiology may apply for a shorter track of training (considered the standard route). It is also possible to complete the education in a cardiac care track, where BIG-registered cardiac care nurses are eligible.[214] Training for each of these different tracks is different depending on the level of prior experience of those nurses able to access specialist nursing training. Hence, training in ambulance care will range from between 925 hours of practice and 184 hours of theory up to 1950 hours of practice and 278 hours of theory depending on the track pursued based on the prior experience and qualifications.[215] After obtaining the diploma, the ambulance nurse has the competence to perform certain activities without the supervision or intervention of a doctor.[216] While providing the care, the ambulance nurse must closely follow national guidelines and protocols,[217] for instance the National Protocol on Ambulance Care (LLP).[218] However, as is the case for intensive care nurses, the specialisation of ambulance nurse is not a legally protected title. Ambulance nurses can therefore also decide to register in the quality register of the professional association for nurses (V&VN).[219]

Ambulance chauffeur

Whereas the ambulance nurse therefore goes through extensive training, the ambulance driver's (*ambulancechauffeur*) medical training is less extensive. These professionals are responsible for the

[210] For a detailed analysis of the legal status of the profession of intensive care nurse in the Netherlands see L. Kortese, 'De Grensoverschrijdende Mobiliteit van Gespecialiseerde Verpleegkundigen IC – Nederland/België', ITEM Maastricht, March 2018.
[211] Kwaliteitsregister Verpleegkundigen & Verzorgenden, 'Over Kwaliteitsregister V&V', https://www.venvn.nl/registers/kwaliteitsregister/over/over-kwaliteitsregister/; Kwaliteitsregister Verpleegkundigen & Verzorgenden, 'Deskundigheidsgebieden Kwaliteitsregister V&V – voor verpleegkundigen', https://www.venvn.nl/media/w5xbm1fm/toelatingseisen-deskundigheidsgebieden-verpleegkundigen.pdf.
[212] Nurses who have received a basic qualification in nursing must be registered in the BIG-register in the Netherlands; Articles 32 and 33 Wet Individuele gezondheidszorg (WET BIG).
[213] See the requirements of the training here: https://www.academievoorambulancezorg.nl/initieel/initiele-opleidingen/ambulanceverpleegkundige/.
[214] College Zorg Opleidingen, 'Opleidingseisen van de opleiding tot ambulanceverpleegkundige' 1 January 2019.
[215] Ibid.
[216] Article 39 Individuele gezondheidszorg (WET BIG), Besluit Functionele Zelfstandigheid.
[217] List of guidelines and protocols found here: https://www.ambulancezorg.nl/themas/kwaliteit-van-zorg/protocollen-en-richtlijnen.
[218] Landelijk Portocol Ambulancezorg (LLP).
[219] See footnote 209.

transport of patients and providing medical assistance. The ambulance nurse performs the medical activities, while the driver can assist preparing materials and medications if necessary. Therefore, most of the training of the ambulance driver is focused on driving skills, traffic law, vehicle maintenance and maintaining hygiene and medical equipment in the ambulance. The driver is also responsible for communicating with the hospital and other emergency departments.[220] Training to become ambulance driver typically lasts a minimum of 875 practice hours and 240 theoretical hours.

Low- and Medium Complex Care

Nurse medium complex ambulance care

The paragraphs above have shown that nurses with different qualifications are able to work in ambulance care. In the context of medium complex care, the newest category introduced in the context of differentiation of care is that of medium-complex ambulance nurse. These are nurses with who are trained as a general care nurse (with a BIG registration) who have experience in a hospital or care institution. Although they therefore have no specialised training in ambulance or intensive care, they may become active in medium complex ambulance care by following training provided by the Academie voor Ambulancezorg that is shorter than the "regular" training in ambulance care.[221] Accordingly, training comprises atheoretical part of 118 hours, internships comprising a minimum of 16 hours, and 120 hours of practical training.

Healthcare Assistant

Healthcare assistants (*Verzorgende* IG) may also be deployed in low complex ambulance care. These professionals have enjoyed training at an institution taken up in the Central register of vocational training (*Centraal register beroepsopleidingen*).[222] In order to work in low complex ambulance care these professionals should – by preference – have experience working in a hospital and/or home care setting.[223] The additional training pursued by these professionals to work in ambulance care comprises 68 hours of theory, internships of at least 16 hours, and 120 hours of practice.[224]

Chauffeur low and medium complex care

Apart from having the necessary driving skills, this ambulance driver must also have basic medical knowledge and skills that is at least at the level of first-aid guidelines.[225] The driver provides assisting care tasks in both low and medium complex care. Communicative skills are also of importance – in respect of the patient, communication within the team, and communication with the dispatch centres. Training for this type of ambulance driver comprises 64 hours of theory, internships of at least 24 hours, and 48 hours of practical training.[226]

[220] Article 7(3) Regeling ambulancevoorzieningen; College Zorg Opleidingen, 'Opleidingseisen van de opleiding tot ambulancechauffeur' 1 February 2017.
[221] AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 34-37.
[222] See Dienst Uitvoering Onderwijs, 'Combinatie Crebo en beroep', https://duo.nl/open_onderwijsdata/databestanden/mbo/crebo/crebo-2.jsp and Article 1 Besluit verzorgende in de individuele gezondheidszorg.
[223] AmbulanceZorg Nederland, 'Kwaliteitskader Laag- en Midden-complexe ambulancezorg' v.1 February 2020, p. 14.
[224] Ibid., p. 30-32.
[225] Ibid., p. 13.
[226] Ibid., p. 27-29.

Recognition of Qualifications

When it comes to the recognition of qualifications of ambulance professions in the Netherlands it is important to focus on the status of the profession – and more particularly whether it is formally regulated or not. Not all of the abovementioned professions are regulated, meaning that a formal recognition procedure is not always necessary.

Starting with the professions that are regulated by law, these concern the professions of healthcare assistant (*Verzorgende IG*), nurse, and doctor. As the previous sections showed, the exercise of these professions is subject to the Individual Healthcare Professions Act. This Act promotes and monitors the quality of the professional practice and protects against careless actions of professionals. Those professions that are registered, generally have a legally protected professional title meaning those who do not hold that title are prohibited from using it.[227] Professionals holding foreign qualifications will therefore need to obtain recognition of those qualifications as well as a registration in the BIG register to work in the Netherlands.[228] The BIG register is maintained by the CIBG on behalf of the Ministry of Health, Welfare and Sport who is also responsible for recognition of foreign diplomas. Different from nurses and doctors, healthcare assistants only need to obtain recognition of their qualifications (and are therefore not registered in the BIG register).

As far as the professions of nurse and doctor with basic medical training are concerned, these are able to benefit from expedited procedures laid down at the EU level. Minimum training conditions exist at EU-level which have harmonised education and training in basic nursing and medical training.[229] This means that doctors and nurses with such a basic qualification are able to benefit from so-called automatic recognition procedures. This means that no detailed comparisons of their qualifications will take place. Instead, lists of qualifications are available at EU level which lay down the titles of degrees that fulfil the agreed standards of education and training (i.e. minimum training conditions). Automatic recognition then means that the CIBG will check whether the professional concerned possesses those qualifications listed. If this is the case, recognition can be granted.[230]

Since these procedures for automatic recognition are only available for a limited number of professions, all other professions are to be recognised on the basis of alternative recognition procedures. For ambulance professions in the Netherlands, this primarily applies to the profession of healthcare assistant.[231] In this case, authorities will examine the qualifications (i.e. diploma's, certificates, and experience) held by the professional in detail after which two conclusions are possible: the professions correspond sufficiently so that recognition may be granted or substantial differences are found in case an adaptation period (max. 3 years) or aptitude test may be imposed.[232]

[227] Articles 3 and 34 Wet op de beroepen in de Individuele gezondheidszorg (Wet BIG).
[228] Article 41(1) and 45(1) Wet op de beroepen in de Individuele gezondheidszorg (Wet BIG).
[229] To this end see Articles 21 and further of Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, [2005] OJ L 255/22 as amended by Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation'), [2013] OJ L 354/132. The consolidated version of the Professional Qualifications Directive can be consulted at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02005L0036-20160524.
[230] See Chapters 2 and 5 of the Regeling aanwijzing buitenlandse diploma's volksgezondheid for the Dutch implementation of the Professional Qualifications Directive.
[231] See Regeling erkenning EU-beroepskwalificaties beroepen in de individuele gezondheidszorg and Algemene wet erkenning EU-beroepskwalificaties.
[232] Articles 5 and 6 io. 11 Algemene wet erkenning EU-beroepskwalificaties.

In these cases, the CIBG will therefore evaluate whether there are substantial differences in the knowledge, skills and competences that are essential for the exercise of the profession to determine to decide whether or not to grant recognition and possibly impose an adaptation period or aptitude test.

Whereas this procedure is therefore relevant for the profession of healthcare assistant, it is also relevant for emergency doctors. Nevertheless, in their case their recognition consists of a two-step procedure: they must first acquire recognition of their qualification in basic medical training after which they again need recognition of their specialist qualifications in emergency medicine. Whereas the qualification in basic medical training must thereby be recognised by the CIBG, the specialist qualifications in emergency medicine must be recognised by the Royal Dutch Medical Association (KNMG) – even if that title is only protected from a private law perspective.[233] The KNMG will nevertheless apply the same procedure as are relevant for legally protected titles (and that originate from the applicable EU law) described above.[234]

For all other professions in ambulance care (i.e. the nurses with a specialization either in ambulance care or intensive care as well as the ambulance drivers), no recognition procedures are necessary.[235] As far as the specialized nurses are concerned, it is important to note that although their specialty is not regulated (i.e. no recognition necessary), they will need to acquire a BIG-registration for their basic qualification in nursing to work in the Netherlands in their specialization. However, as far as the nursing specialties are concerned as well as the profession of ambulance driver, it is ultimately up to the employer to decide whether or not to recognize the qualifications of a foreign trained professional by deciding whether or not to employ them.[236]

4.1.3 Insurance Cover

Every Dutch citizen is insured for ambulance care through their basic health insurance. Under the Health Insurance Act,[237] all necessary emergency care (ambulance care and also emergency treatment abroad) is reimbursable. This also includes medically necessary ambulance transport in certain circumstances, for example when the insured person is transported to a hospital, care provider or

[233] For more information on the recognition procedure as conducted by the KNMG for emergency doctors see KNMG, 'Erkenning en registratie op grond van een buitenlands specialistendiploma', https://www.knmg.nl/opleiding-herregistratie-carriere/buitenlandse-artsen/erkenning-en-registratie.htm;
[234] See KNMG, Beleidsregels buitenslands gediplomeerden RGS, Januari 2016 and Besluit van 11 november 2015 houdende de bepalingen voor erkenning van beroepskwalificaties en de registratie van buitenslands gediplomeerden in het specialistenregister (Besluit buitenslands gediplomeerden).
[235] This is the case since the profession of ambulance driver and the nursing specialisations in ambulance care and intensive care are not regulated by law and do not feature on the list of regulated professions for the Netherlands. For an overview of these professions see European Commission, 'Regulated professions database', https://ec.europa.eu/growth/tools-databases/regprof/index.cfm?action=regprofs&id_country=10&quid=1&mode=asc&maxRows=*#top.
[236] Despite this freedom of the employer, questions may be raised as to whether this decision to hire persons with a foreign qualification is actually free from any conditions. Since the medical field itself also plays an important role in setting standards to guard the quality of care, requirements related to qualifications may be taken up in additional regulations which – although they are not legislation in the formal sense – may form a restriction to employers hiring persons with foreign qualifications. Such tensions have been experienced in practice for the nursing specialty in intensive care and may by analogy also arise in the case of ambulance care. For more information on this dynamic see L. Kortese, 'De Grensoverschrijdende Mobiliteit van Gespecialiseerde Verpleegkundigen IC – Nederland/België', ITEM Maastricht, March 2018.
[237] Zorgverzekeringswet.

healthcare insurance that is covered by the basic package of the insurance policy.[238] Although the care is fully covered by the health insurance and the insured person is not subject to personal contributions, the insured person may be required to pay compulsory deductibles (*eigen risico*) up to 385 euros in a year.[239]

In case the regional ambulance service has information of the patient's health insurer, the invoice is directly sent to the insurer. In other cases, the invoice is sent to the patient who may direct the bill to the health insurance company.[240] Only ambulance care leading to transport to the hospital is charged; in case the patient is examined on site but not transported, no invoices are issued.[241] Rates of ambulance care differ on the kilometres travelled, whether the situation involves an emergency or planned ambulance care. Different rates also apply for intensive care (MICU) and cross-border transports.[242]

The Healthcare Insurance Act does not explicitly regulate the reimbursement of healthcare received abroad. Nevertheless, Article 13 provides the option for the insured to seek healthcare from a provider with whom the insurer does not have an agreement. In case the insured seeks urgent care from another Member State, they may request a European Health Insurance Card (EHIC) from their insurer which entitles the insured to receive care under the same conditions as those who are insured in that country. This also applies to costs, meaning that the person only pays the costs as those insured in the Member State of treatment must cover. These costs are then settled between the countries. For planned care the insured person is advised to request a S2-form, which may be granted if the treatment belongs to the insured package in the Netherlands and same care may not be provided within a reasonable time from a care provided with whom the health insurer has an agreement.[243] Therefore, depending on the situation of ambulance care, both EHIC and S2-form may become relevant in case of reimbursement of costs.

4.1.4 Technical Requirements

Ambulances are priority vehicles and the use of signals is regulated by the Road Traffic Act and the Traffic Rules and Traffic Signs Regulations 1990, while more detailed regulation may be found Optical and Sound Signals Regulation 2009[244] and an industry guideline.[245] Ambulance is defined as a motor vehicle, vessel or helicopter equipped to provide care to and the transport of the sick of injured,[246] that is registered after an inspection performed by the Netherlands Vehicle Authority (RWD).[247] As far as their performance requires it, ambulances may use visual and audible signals to indicate urgency.[248]

[238] Article 2.13 Besluit zorgverzekering.
[239] Article 19 Zorgverzekeringswet.
[240] Ambulancezorg Nederland, 'Facturatie' https://www.ambulancezorg.nl/themas/financiering/zorgverzekering/facturatie.
[241] Ambulancezorg Nederland, 'Kosten' https://www.ambulancezorg.nl/themas/financiering/kosten-en-tarieven/kosten.
[242] Tariefbeschikking regionale ambulancevoorzieningen 2020 - TB/REG-20635-01.
[243] Zorginstituut Nederland, 'Buitenland end zorg Zvw' https://www.zorginstituutnederland.nl/Verzekerde+zorg/buitenland-en-zorg-zvw.
[244] Regeling optische en geluidssignalen 2009.
[245] Brancherichtlijn Optische en geluidssignalen spoedeisende medische hulpverlening 2016, https://www.ifv.nl/kennisplein/Documents/20160101-VVN-AmbulancezorgNL-Brancherichtlijn-optische-en-geluidssignalen-SMH.pd.
[246] Article 1 Wet ambulancezorgvoorzieningen.
[247] Regeling voertuigen (Regeling tot uitvoering de hoofdstukken III en VI van de Wegenverkeerswet 1994).
[248] Article 29 Reglement verkeersregels en verkeerstekens.

An industry guideline describes more specifically how the signals may be used.[249] The dedicated level of emergency dedicates which kind of visual or audio signals are used, if any. Only for the highest level of emergency (life-threatening situation A1), an ambulance is sent with optical and acoustic signals. When it comes to situations that are not immediately life-threatening (A2) optical and audio signals may be used under certain conditions. For other types of situations (non-urgent transport B), no signs are used.[250]

All regular ambulances in the Netherlands carry the standard medicine and equipment in the ambulance. Ambulances performing intensive care however carry additional equipment specifically adapted to this type of care.[251] The Medical Devices Act imposes requirements on the safety of the medical equipment, also by allocating responsibility for the RAV's. The Act also regulates the handling (sterilisation) and storage of the medical equipment.[252]

4.2 Belgium

Ambulance services in Belgium cover the immediate provision of care and transport of persons whose state of health deteriorates as a result of an accident or sudden illness or complication.[253] Ambulance services are either provided by a public authority or private services that conclude agreement with the Directorate-General for Healthcare and must meet standards and requirements on the provision of ambulance services as set in Law of 8 July 1964.[254] The majority of ambulances are organized in the same emergency zones as municipal fire departments or rely on other recognized organizations, for example a hospital.[255]

4.2.1 Distinguishing Different Types of Medical Transport

The type of ambulance and personnel deployed depend on the degree of the emergency. In situations of emergency, paramedics are sent to provide assistance at the scene of emergency or transport patients to care units in **ambulances**.[256] In life-threatening situations aid may be provided by hospital-sent **Mobile Urgency Group** (MUG)[257] or a **Paramedic Intervention Team** (PIT).[258] In comparison to ambulances and PITs, MUGs may accompany transport but do not transport patients themselves, with the exception when the team is deployed in **medical helicopters** (MUGH).[259] A distinction can also be

[249] Brancherichtlijn Optische en geluidssignalen spoedeisende medische hulpverlening.
[250] Brancherichtlijn Optische en geluidssignalen spoedeisende medische hulpverlening.
[251] Interview 9 – Local Hospital – 9 June 2021. However, the type and manufacturer of the equipment may differ.
[252] Wet op de medische hulpmiddelen.
[253] Article 1 Law of 8 July 1964.
[254] Wet van 8 juli 1964 betreffende de dringende geneeskundige hulpverlening.
[255] Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu, 'Ambulances' https://www.health.belgium.be/nl/ambulances. More on the organisation of ambulance care in Belgium: M. Ramakers,et al., 'Grensoverschrijdende hulpverlening in de Euregio Maas-Rijn' p. 63.
[256] Article 4 Law of 8 July 1964.
[257] Article 4bis Law of 8 July 1964, Royal decree 10 August 1998.
[258] Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu, 'PIT Paramedical Intervention Team' https://www.health.belgium.be/nl/pit-paramedical-intervention-team.
[259] For instance in the area of West Flanders: Instituut Medische Dringende Hulpverlening, https://www.imdh.eu/nl/mug-heli.

made between emergency ambulance care and **non-urgent ambulance transport**. This occurs when the patient's condition is stable and only needs monitoring.[260]

In emergency situations, the ambulance is deployed with two **paramedics** (*hulpverlener-ambulancier*). The team of Mobile Urgency Group (MUG) consists at least of a **doctor** specialised in emergency care and an **emergency nurse**. Additionally, a paramedic may assist the team and drive the ambulance. The Paramedic Intervention Team (PIT) also involves a **paramedic** and an **emergency nurse**.[261] In patient transport outside emergencies, care in the ambulance is carried out by a **non-urgent patient transport nurse** (*ambulancier niet dringend patiëntenvervoer*).

4.2.2 Professional Regulation, Qualifications & Recognition

As the previous Section has shown, ambulance care in Belgium knows different professions, namely those of emergency doctor, emergency nurse, paramedic, and non-urgent patient transport nurse. These different professions and their training are briefly discussed below. Attention is also given to how recognition for these professions may be obtained by holders of qualifications originating from EU Member States other than Belgium.

The ambulance services may only work with ambulance personnel that are certified by a training centre and registered with the FPS Public Health, Food Chain Safety and Environment.[262] In the Coordinated law on the exercise of health care professions of 10 May 2015, the Belgian federal government sets the minimum qualifications requirements and the practice of healthcare professionals. These requirements are interpreted by the Communities who also responsible for organisation of the education.[263]

Emergency doctors

In order to become emergency doctor in Belgium one must fulfil multiple training steps. First, one must fulfil basic training in medicine after which one may access medical specialist training. To qualify for such specialist training candidates must attest to having completed basic medical training and be in possession of a *visum* (professional licence).[264] Doctors will subsequently undertake training to become *geneesheer-specialist in de urgentiegeneeskunde*.[265] Training to become emergency doctor subsequently encompasses six years of full-time training in one or more emergency traineeships of which 12 months must be spent in a service for intensive care. Doctors who have a specialty in intensive care can furthermore become qualified in emergency care after a one-year traineeship in

[260] Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu, 'Ambulancier niet dringend patientenvervoer' https://www.health.belgium.be/nl/gezondheid/zorgberoepen/paramedische-beroepen/ambulancier-niet-dringend-patientenvervoer.
[261] Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu, 'Handboek voor de hulpverlener-ambulancier' 2013, pp. 6-7.
[262] Article 6ter(2)-(3) Law of 8 July 1964, Chapter 12 Law of 19 December 2008.
[263] Article 6ter Law of 8 July 1964.
[264] Article 3(1) io. 25 of the Coordinated law of 10 May 2015 (Gecoördineerde wet betreffende de uitoefening van de gezondheidszorgberoepen).
[265] Article 2(2) Ministerial decree of 14 February 2005 (Ministerieel besluit tot vaststelling van de bijzondere criteria voor de erkenning van geneesheren-specialisten houders van de bijzondere beroepstitel in de urgentiegeneeskunde, van geneesheren-specialisten in de urgentiegeneeskunde en van geneesheren-specialisten in de acute geneeskunde, alsook van de stagemeesters en stagediensten in deze disciplines).

emergency care.[266] In order to continue carrying the specialist title of *geneesheer-specialist in de urgentiegeneeskunde*, emergency doctors must carry out a medical function which has a close connection to emergency care and provide proof of keeping up and developing their knowledge of the field.[267]

Emergency nurses

As is the case for emergency doctors, emergency nurses pursue their training in two steps. In particular, they must first obtain a bachelor's degree in nursing after which they follow an advanced bachelor's degree in intensive and emergency care, leading to the professional title of *verpleegkundige gespecialiseerd in de intensieve zorg en spoedgevallenzorg.*[268] Therefore, emergency nurses as more highly trained and provide more specialised care than paramedics.

As far as their basic training through their bachelor's degree is concerned, this training consists of three years comprising 4600 hours of theoretical (1/3 of training) and clinical (1/2 of training).[269] This basic training in nursing is set to ensure that candidates have acquired sufficient knowledge and skills of, among others, the organism, physiology and behaviour of health and sick persons, knowledge of the nature and ethics of the profession, adequate clinical experience, and the competence to independently conduct urgent life-saving measures in crisis and disaster situations. When it comes to their specialist training, it consists of a theoretical part of at least 450 hours and a practical part of at least 450 hours.[270] During their theoretical training, candidates undertake training in biomedical sciences, methodologies of research in intensive care and emergencies, medical appliances used in intensive care and emergencies, and social and human sciences. In terms of the practical part of training candidates must spend at least 200 hours in a recognised emergency service while the remaining hours can be spent freely working in emergency care (e.g. ambulance care). Once they have completed their training, the special title of *verpleegkundige gespecialiseerd in de intensieve zorg en spoedgevallenzorg* is issued for an unlimited duration, but whether it can be maintained is subject to the condition of continued professional development in intensive care and emergencies (60 hours per 4 years) and by having carried out the profession of at least 1500 hours over a period of four years.[271]

[266] Article 3(2) Ministerial decree of 14 February 2005.
[267] Article 4 Ministerial decree of 14 February 2005.
[268] Royal Decree of 27 September 2006 (Koninklijk besluit houdende de lijst van bijzondere beroepstitels en bijzondere beroepsbekwaamheden voor de beoefenaars van de verpleegkunde), Article 7bis Royal decree 8 June 1990 (Koninklijk besluit houdende vaststelling van de lijst van de technische verpleegkundige verstrekkingen en de lijst van de handelingen die door een arts [of een tandarts] aan beoefenaars van de verpleegkunde kunnen worden toevertrouwd, alsmede de wijze van uitvoering van die verstrekkingen en handelingen en de kwalificatievereisten waaraan de beoefenaars van de verpleegkunde moeten voldoen).
[269] Chapter 4 of Coordinated law of 10 May 2015 (Gecoördineerde wet betreffende de uitoefening van de gezondheidszorgberoepen).
[270] Article 3 Ministerial decree of 19 April 2007 (Ministerieel besluit tot vaststelling van de criteria waarbij de beoefenaars van de verpleegkunde gemachtigd worden de bijzondere beroepstitel van verpleegkundige gespecialiseerd in de intensieve zorg en spoedgevallenzorg te dragen).
[271] Article 4 Ministerial decree of 19 April 2007.

Hulpverlener-ambulancier

The profession is regulated on the federal level by Royal Decree of 13 February 1998.[272] The applicant must complete basic training consisting of at least 160 hours of theory, practice, and an internship.[273] Of these 160 hours, 120 hours are combined by the theoretical and practical training while a minimum of 40 hours is reserved for the internship. In order to conclude training, a written examination is to be taken on the theoretical part of training together with an oral exam that is focused on both theoretical and practical knowledge.[274] Access to the internship is reserved to candidates who were successful in the aforementioned examinations.[275] Upon successful completion of the education and training for the profession of *hulpverlener-ambulancier* candidates are provided a certificate that is valid for 5 years.[276] This basic training is followed by yearly continuous training (24 hours combined of theory and practice).[277] Paramedics in Belgium are assessed every five years to renew their certificate to test the competence of the paramedic.[278] The paramedics are responsible for driving and providing care,[279] therefore in Belgium there is no separate profession of ambulance driver.

Apart from persons having pursued the dedicated training as *hulpverlener-ambulancier* other professionals may also gain access to that profession without going through dedicated training. This particularly applies for *gegradueerde verplegers in intensieve zorg en spoedgevallenzorg* (specialised nurses in intensive care) who can obtain an exemption from basic training in *hulpverlener-ambulancier* due to their particular training.[280] The same applies for nurses who can prove (under set conditions) to have five years of experience in intensive care services. Additional exemptions apply for other healthcare professionals who may receive an exemption for certain parts of training.[281]

Ambulancier niet-dringend patiëntenvervoer

Exercise of transport outside urgent medical assistance is also a paramedic profession.[282] Apart from the profession of *hulpverlener-ambulancier*, Belgium also knows the profession of *ambulancier niet-dringend patiëntenvervoer* (non-urgent patient transport nurse). This type of transport concerns interclinical transport of stable patients that need to be medically supervised during transport to ensure their condition does not deteriorate.[283] They may provide limited actions, such as oxygen treatment and patient mobilisation. Their education consists of at least 160 hours with practical and theoretical courses meeting requirements as listed by law.[284] Examples of these requirements include theoretical training in basic knowledge in anatomy and physiology, theoretical and practical training

[272] Royal decree 13 February 1998 (Koninklijk besluit van 13 februari 1998 betreffende de opleidings- en vervolmakingscentra voor hulpverleners-ambulanciers).
[273] Article 7 Royal decree 13 February 1998.
[274] Article 8 Royal decree 13 February 1998.
[275] Article 10 Royal decree 13 February 1998.
[276] Article 11 Royal decree 13 February 1998.
[277] Article 14 and 15 Royal decree 13 February 1998. See Annex 2 to the Royal decree fora n overview o the content of this continued theoretical and practical training.
[278] Article 17 and 18 Royal decree 13 February 1998.
[279] Inge van der Molen, 'Aansprakelijkheidskwesties van ambulancehulpverleners bij grensoverschrijdende spoedeisende medische hulpverlening in de Euregio Maas-Rijn' 2009, p. 31.
[280] Article 20 Royal decree 13 February 1998.
[281] Articles 21-23 Royal decree 13 February 1998.
[282] Royal Decree of 2 July 2009.
[283] Article 1 Royal decree 14 May 2019 (Koninklijk besluit betreffende het beroep van ambulancier niet dringend patiëntenvervoer).
[284] Article 3(1)(a-c) Royal decree 14 May 2019.

in first aid, and an internship of at least 40 hours. After the diploma is successfully obtained, their professional skills are kept up-to-date with at least 8 hours of training per year consisting of personal study and participation in training activities.[285]

Recognition of Qualifications

Procedures for the recognition of qualifications of healthcare professionals are found in the Coordinated law on healthcare professions of 10 May 2015. As far as the professions of doctor and nurse with basic training are concerned, these are able to benefit from expedited procedures on the recognition of qualifications due to EU-level procedures.[286] More specifically, these professionals benefit from so-called automatic recognition procedures. Since minimum training requirements (i.e. harmonised standards of training) have been set at EU-level for these professions, persons exercising these professions can benefit from procedures where no detailed comparison of the content of the qualifications will take place. On the basis of this system, if a qualification is taken up on a list in the relevant EU legislation, recognition is to be granted.[287]

However, different from the basic qualifications in medicine and nursing, all other qualifications relevant in ambulance care and IC transport will have to be recognised following regular recognition procedures (using EU-law terms, under a general system procedure). This means that emergency doctors, emergency nurses, paramedics, and non-urgent patient transport nurses need to obtain recognition following such procedures.[288] On the basis of these procedures, recognition is to be granted unless substantial differences can be shown or when the professions differ in terms of their scope of activities.[289] These substantial differences primarily concern areas of which the knowledge, skills and competences are of crucial importance for the exercise of the profession and for which the content of training and qualifications of the applicant differs from what is required in Belgium.[290] If such is the case, an adaptation period of up to three years or an aptitude test may be imposed so that

[285] Article 3(2) Royal decree 14 May 2019 (Koninklijk besluit betreffende het beroep van ambulancier niet dringend patiëntenvervoer).
[286] Article 106 Coordinated law of 10 May 2015. See also Ministerial decree of 31 January 2008 (Ministerieel besluit tot vaststelling van de lijst van opleidingstitels van arts afgeleverd door de lidstaten van de Europese Unie) and Ministerial decree of 28 February 2008 (Ministerieel besluit tot vaststelling van de lijst van opleidingstitels van verantwoordelijk algemeen ziekenverpleger afgeleverd door de lidstaten van de Europese Unie).
[287] To this end see Articles 21 and further of Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, [2005] OJ L 255/22 as amended by Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation'), [2013] OJ L 354/132. The consolidated version of the Professional Qualifications Directive can be consulted at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02005L0036-20160524.
[288] Article 105 Coordinated law of 10 May 2015. Depending on where the professional is to exercise the profession legislation from either the Flemish Region or the Walloon region is applicable. In particular, this concerns one of the following two decrees: Decree of 24 February 2017 (Decreet tot gedeeltelijke omzetting van richtlijn 2005/36/EG van het Europees Parlement en de Raad van 7 september 2005 betreffende de erkenning van beroepskwalificaties) and Law of 12 February 2008 (Wet van 12 februari 2008 tot instelling van een algemeen kader voor de erkenning van EU-beroepskwalificaties). The procedures will subsequently be carried out by different authorities depending on the language of the dossier. For Dutch dossiers, these may be submitted in the Flemish Region to the *Agentschap Zorg en Gezondheid*. French dossiers may then be addressed to the *Fédération Wallonie-Bruxelles*. German dossiers are subsequently addressed to the *German-speaking Community*; for more information on these authorities and contact data see Federal Public Service Health, Food Chain Safety and Environment, 'Visa for a foreign diploma', https://www.health.belgium.be/en/e-services/visa-foreign-diploma and Federal Public Service Health, Food Chain Safety and Environment, 'Professions paramédicales', https://www.health.belgium.be/en/node/22898.
[289] Article 24(1) and 25(1) Decree of 24 February 2017 and 15(1) and 16(1) Law of 12 February 2008.
[290] Article 16(4) Law of 12 February 2008 and 25(4) Decree of 24 February 2017.

an applicant can mitigate any differences and ultimately gain access to the profession. An applicant is to hear about the possible need for an adaptation period or aptitude test within three months after having submitted their full application (including necessary documentation).[291]

4.2.3 Insurance Cover

In Belgium, costs of emergency ambulance care are laid down by law[292] and covered by the patient. In 2021, the costs are set at 61.41 euros and no additional costs may be charged.[293] For the purposes of invoicing, it is irrelevant whether the patient is only treated on site or transported to the hospital. However, if the patient receives care from the Medical Urgency Group (MUG), additional costs may be imposed depending on the type of the care received. These costs are fully reimbursable under health insurance. The health insurance also covers part of costs when the MUG team is deployed in a helicopter (depending on the distance travelled). [294] Non-urgent patient transport is usually covered by the patients themselves, although it is possible that health insurance covers (part of) the costs.[295] Similar to the Netherlands, taking account the duration of stay in another Member State and the type of healthcare concerned, unexpected healthcare is reimbursable by presenting EHIC card or by claiming reimbursement from the Belgian insurance fund.[296] In case of planned healthcare, reimbursement may be sought according to the rules and rates of the country where the care is received, or under the rules and rates applied by the Belgian compulsory health insurance.[297]

4.2.4 Technical Requirements

As stated above, the Law of 8 July 1964 lays own requirements on the provision of ambulance services. Based on Article 1 of this Law, the FPS Public Health, Food Chain Safety and Environment determine in circular letters the minimum medical material for the ambulances working withing urgent medicine assistance. The aim is to create a federally standardized list of equipment that will allow ambulance services to work together more effectively. The list includes various materials such as respiratory equipment, personal protective materials, and medicines.[298] MUG (and PIC) may be equipped with materials required for intensive care situations that are normally not present in regular ambulances.[299]

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[291] Article 33 Decree of 24 February 2017 and Article 23 Law of 12 February 2008.
[292] Royal Decree of 28 November 2018.
[293] Directoraat-generaal Gezondheidszorg Dienst Dringende Hulpverlening: Omzendbrief DGGS/2021/DH_AU/001 'Facturatie naar aanleiding van een tussenkomst dringende geneeskundige hulpverlening door een ambulancedienst' https://www.health.belgium.be/sites/default/files/uploads/fields/fpshealth_theme_file/tarification_ambulances_2021_nl.pdf.
[294] Christelike mutuliteit CM, 'Dringend ziekenvervoer' https://www.cm.be/diensten-en-voordelen/hospitalisatie/vervoer/dringend-ziekenvervoer.
[295] Vlaanderen, 'Dringende geneeskundige hulpverlening en ziekenvervoer' https://www.vlaanderen.be/openbare-hulpdiensten-en-infolijnen#q-2a5c379a-476f-4056-a754-c1ea8b68716b.
[296] Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu, 'Reimbursement according to the rules and rates applicable in the country where you received healthcare' https://www.health.belgium.be/en/reimbursement-according-rules-and-rates-applicable-country-where-you-received-healthcare.
[297] Federale overheidsdienst volksgezondheid, veiligheid van de voedselketen en leefmilieu, 'Planned healthcare' https://www.health.belgium.be/en/health/taking-care-yourself/patient-related-themes/cross-border-health-care/healthcare-another-eu-4.
[298] Circular no. 2018/DGH-AMU/001 regarding the minimum contents of vehicles that transport persons.
[299] Federale overheidsdienst voolksgezondheid, veiligheid van de voedselketen en leefmilieu, 'Handboek voor de hulpverlener-ambulancier' Chapter 12: Organisatie van de dringende geneeskundige hulpverlening, p. 9.

Regarding the vehicles and the use of signals, according to Article 37 of Royal decree of 1 December 1975 priority vehicles may use optical and audio signals.[300] During emergency, blue lights must be used while in less urgent cases the ambulance may make use of flashing lights. Audio signals (sirens) may only be used in emergency situations.[301]

4.1.3 Germany – North Rhine-Westphalia

In light of its federal structure, the competence to legislate in the area of ambulance and IC transport is delegated to the German *Bundesländer*.[302] For the purpose of this study emphasis is therefore placed on North Rhine-Westphalia. There, the competence to organise medical transport is given to the *Kreise* and *kreisfreie Städte* in cooperation with help organisations such as the German red cross.[303] North Rhine-Westphalia counts 31 *Kreise* and 23 *kreisfreien Städte*,[304] meaning the provision of ambulance services is quite dispersed. The *Kreise* and *kreisfreien Städte* are furthermore responsible for drawing up plans specifying the number and locations of rescue stations as well as further quality requirements.[305]

4.3.1 Distinguishing Different Types of Medical Transport of Patients

In the event of ambulance transport in Germany, a distinction is made between life threatening situations (*Notfallrettung* – emergency transport) and transport of patients who are not in a life-threatening situation but nevertheless requiring medical care during transport to a facility (*Krankentransport* – ambulance transport).[306] Emergency & ambulance services are organised differently per German *Bundesland* according to regional legislation. Nevertheless, certain topics concerning emergency & ambulance transport are organised at national level, such as, for example, certain standards on training and regulation of professions.

In North Rhine-Westphalia, general provisions on emergency & ambulance transport may be found in the *Rettungsgesetz NRW – RettG NRW* (Rescue Act NRW). When it comes to the scope of application of this legislation it is interesting to point out that it does not apply, first to transports conducted by hospital vehicles, and second, that it also does not apply to transport that has started outside of North Rhine-Westphalia.[307] This means that – also in a cross-border context – the Rescue Act NRW is not to be applied to transport starting outside North Rhine-Westphalia. Instead, it is the legislation of the

[300] Koninklijk besluit houdende algemeen reglement op de politie van het wegverkeer en van het gebruik van de openbare weg, 1 december 1975.
[301] Article 37 Royal decree of 1 December 1975.
[302] See Bundesärztekammer, 'Rettungswesen', https://www.bundesaerztekammer.de/aerzte/versorgung/notfallmedizin/rettungswesen/.
[303] Ministerium für Arbeit, Gesundheit und Soziales des Landes Nordrhein-Westfalen, 'Schnelle Hilfe rund um die Uhr', https://www.mags.nrw/rettungswesen. See also § 13 Gesetz über den Rettungsdienst sowie die Notfallrettung und den Krankentransport durch Unternehmer (Rettungsgesetz – RettG NRW).
[304] Ministerium für Heimat, Kommunales, Bau und Gleichstellung des landes Nordrhein-Westfalen, https://www.mhkbg.nrw/themen/kommunales/unsere-gemeinden-gewachsene-europaeische-staedte.
[305] § 12(1) Rettungsgesetz NRW – RettG NRW.
[306] E. Pradier et al. Die medizinische Notfallversorgung in Deutschland: Rettungsdienste, Notaufnahme, ärztlicher Bereitschaftsdienst: Am Beispiel der Länder Baden-Württemberg und Rheinland-Pfalz (Themenheft TRISAN), p. 4.
[307] § 1(3)(5) Rettungsgesetz NRW – RettG NRW.

Bundesland or country in which the transport started that applies until transport is completed in North Rhine-Westphalia.[308]

Moving to the different types of medical transport of patients, the Rescue Act NRW confirms the distinction between emergency and ambulance transport described above (*Notfallrettung* and *Krankentransport*) and adds a further category concerning major disasters.[309] In terms of the persons working in emergency and ambulance transport, they must be suitable for their work both in terms of health and professional expertise.[310] Depending on the type of transport, different professionals must be present in the ambulance.[311] For ambulance transport, at least one *Rettungssanitäter* must be present. For emergency transport, at least one *Rettungsassistent* or *Notfallsanitäter* must be present. Doctors who work in emergency transport must have particular proof of their knowledge (i.e. possess a professional certificate as *Notarzt* from a North Rhine-Westphalian *Ärztekammer*, or equivalent). As a rule, at least two qualified professionals must ride with the ambulance. In terms of the drivers, holders of a qualification as *Rettungshelfer* can drive an ambulance in case of ambulance transport. In case of emergency transport, *Rettungssanitäter* or persons having undergone similar training as *Rettungsassistent* can drive the ambulance.[312] Nevertheless, exceptions are possible to these general rules on who drives the ambulance, especially in the event of undertakings who provide emergency or ambulance services as part of operational first aid.[313] Furthermore, all of the abovementioned professionals active in emergency or ambulance transport must undertake an annual 30-hour training to update their knowledge.[314] Table 2 below provides an overview of the different professionals and tasks they perform.

[308] D. Prütting, *Rettungsgesetz Nordrhein-Westfalen: Kommentar für die Praxis,* (Kohlhammer Deutscher Gemeinde Verlag, 2016), p. 38.
[309] § 2(1) Rettungsgesetz NRW – RettG NRW.
[310] § 4(1)(2) Rettungsgesetz NRW – RettG NRW. The health status of professionals working in emergency and ambulance transport is established through a medical exam concluded by a certificate attesting to the suitability of the person concerned that is to be repeated every three years.
[311] § 4(3)(4) Rettungsgesetz NRW – RettG NRW.
[312] § 4(4)(2) Rettungsgesetz NRW – RettG NRW.
[313] Undertakings who want to undertake emergency or ambulance transport services can do so if they have obtained approval from a local regulatory authority (the *Kreisordnungsbehörde*). Nevertheless, in order to perform such services, persons must either be involved in rescue services or have a licence to do so – if not, their undertaking cannot undertake emergency and ambulance services; See § 17 and further Rettungsgesetz NRW – RettG NRW. Fulfilment of the different criteria set for undertakings in the *Rettungsgesetz* is crucial, since a violation of that legislation is punishable by fines; see § 28 Rettungsgesetz NRW – RettG NRW.
[314] § 5 Rettungsgesetz NRW – RettG NRW. For doctors, the content of the course is established by the *Landesärztekammern* (state medical associations) as opposed to hospitals (see § 11(2)(1) of the RettG NRW).

Title	Type of transport	Task
Notarzt	Emergency transport	Provide medical care; Issue instructions to other personnel present
Notfallsanitäter	Emergency transport	Provide medical care Drive the ambulance / Notarzt-Einsatzfarhzeug
Rettungsassisstent	Emergency transport	Provide medical care Drive the ambulance / Notarzt-Einsatzfarhzeug
Rettungssanitäter	Ambulance transport	Provide medical care; Drive the ambulance
Rettungshelfer	Ambulance transport	Drive the ambulance

Table 2: Overview of Professionals in Emergency and Ambulance Transport in North Rhine-Westphalia

As far as IC transport is concerned, regular ambulances may also undertake such transport (as well as the transport of newborns, heavyweight or highly contagious patients) if they are appropriately equipped and staffed.[315] IC transport is thereby considered to form a part of the *Notfallrettung* (ambulance transport in life-threatening situations).[316] In terms of staff, the interviews already confirmed that the same staff is involved with IC transport as in ambulance or emergency transport in Germany. Furthermore, as far as vehicles are concerned different vehicles exist in North Rhine-Westphalia for the medical transport of patients. Whereas *Rettungswagen* and *Notarztwagen* are used for emergency transport, *Krankentransportwagen* are used for ambulance transport.[317] Additionally, an *Intensivtransportwagen* is a vehicle especially equipped for interclinical IC transport. The Rescue Act NRW furthermore establishes that – in order to carry out such transports economically, consortia must be formed taking into account the special vehicles that are already approved or otherwise integrated into rescue services.[318]

4.3.2 Professional Regulation, Qualifications & Recognition

The previous Section showed which professions may be identified for ambulance, emergency, and IC transport. The present Section seeks to analyse these to determine which qualifications are necessary before persons may work as ambulance professionals. On the basis of the Rescue Act NRW, all personnel working in emergency or ambulance transport must undergo additional training on an annual basis of at least 30 hours.[319] That training is organised by the bodies responsible for the

[315] § 3(4) Rettungsgesetz NRW – RettG NRW.
[316] A. Lahrmann, ‚Rechtliche Bestimmungen', in: U. hecker and C. Schramm (eds.), *Praxis des Intensivtransports: Für Rettungsdienst und Pflegepersonal* (Springer, 2012), p. 6.
[317] Ministerium für Arbeit, Gesundheit und Soziales des Landes Nordrhein-Westfalen, 'Schnelle Hilfe rund um die Uhr', https://www.mags.nrw/rettungswesen.
[318] § 3(4) Rettungsgesetz NRW – RettG NRW.
[319] § 5(4) Rettungsgesetz NRW – RettG NRW.

emergency and ambulance services in cooperation with suitable hospitals.[320] For ambulance doctors, the content and the extent of this training is designated by the State Medical Chambers (*Landesärztekammern*).[321]

Emergency Doctor (Notarzt)

When taking a closer look into the profession of emergency doctor, it becomes apparent that the State Medical Chambers play an important role in both the training to become emergency doctor as well as to keep knowledge updated once a person is already qualified as such. For North Rhine-Westphalia competences in this area are divided between two State Medical Chambers (*Ärztekammer Nordrhein* and the *Ärztekammer Westfalen-Lippe*). Each of these two State Medical Chambers is responsible for issuing regulations on specialist medical training (called *Weiterbildungsordnungen*).

As far as the training of doctors is concerned, it is built up in different phases. In the first phase, doctors undertake basic medical training after which specialist training is pursued.[322] When it comes to the qualifications of an emergency doctor, these professionals have pursued extensive training. More specifically, the specialisation in emergency medicine is pursued after professionals have completed both basic as well as specialist medical training.[323] Indeed, to access training in emergency medicine, candidates must first obtain a basic qualification in medicine (*Approbation/Erlaubnis*) to access specialist training.[324] In order to then become qualified as an emergency doctor, candidates need to have completed 24 months of additional training in an area of direct patient care in inpatient sectors of which 6 months must be completed in intensive care or anaesthesiology and 80 hours must be spent on a training in general and special emergency treatment.[325] Candidates must thereby complete 50 emergency medical missions in emergency ambulances or rescue helicopters. Ultimately, to become qualified as an emergency doctor, candidates must prove to have fulfilled the necessary requirements in an examination.[326]

As far as recognition of foreign qualifications is concerned, holders of such qualifications in emergency medicine must apply for recognition at the competent State Medical Chamber.[327] Whether or not a degree can be recognised depends on the existence of equivalence between the foreign degree and that required in North Rhine-Westphalia (again, established on the basis of procedures originating

[320] § 11(2)(1) Rettungsgesetz NRW – RettG NRW.
[321] § 5(4) Rettungsgesetz NRW – RettG NRW.
[322] Whereas basic medical training is regulated at the national level by the *Bundesärztekammer*, the specialist training is a competence of the State Medical Chambers (*Landesärztekammern*).
[323] § 2(4) Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 2(4) Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[324] § 4(1) Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 4(1) Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[325] For a detailed account of the training in emergency medicine and competences to be acquired see Annex C Point 32 Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; Annex 68 Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[326] § 2(4) and 12-16 Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 2(4) and § 12-16 Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[327] § 18(3) Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 18(3) Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.

from EU law).[328] Here, it is particularly important that the two qualifications are comparable, that no substantial differences exist, and that the person concerned has already obtained recognition of their basic qualification in medicine.[329] Substantial differences must thereby be understood as differences in the content of training whereby particular focus is placed on knowledge, skills, and competences that are essential to the exercise of the profession in North Rhine-Westphalia.[330] Applicants must thereby be given the opportunity to demonstrate that they can compensate for any substantial differences through experience or additional training. If recognition is then granted, it is possible for the professional concerned to carry the designated title taken up in the *Weiterbildungsordnung*.[331] However, if substantial differences are found to exist (and these could not be compensated by further knowledge and experience), a candidate may need to complete compensation measures, meaning either an aptitude test or an adaptation period of between six and 36 months.[332] In order to acquire recognition, the professional concerned must lodge an application with the State Medical Chamber that will decide on recognition or the application of compensation measures within three months (although the procedure may be extended once by a one-month period).[333]

Ambulance Paramedic (Notfallsanitäter/Rettungsassistent)

As far as the professions of *Notallsanitäter* and *Rettungsassistent* are concerned, it is important to emphasise that Table 2 above shows that the professions of *Rettungsassistent* and *Notfallsanitäter* overlap in terms of activities. After 31 December 2026, the profession of *Notfallsanitäter* is meant to replace that of *Rettungsassistent*.[334] Similar to the profession of emergency doctor, the profession of ambulance paramedic (*Notfallsanitäter*) is regulated at the national level in Germany. In order to be able to work as a *Notfallsanitäter*, a person needs to possess a professional licence (*Erlaubnis*).[335] In order to obtain such a licence, several conditions must be fulfilled. In particular, the individual concerned must hold the relevant qualifications, must be able to prove that they have not been guilty of unreliable professional conduct, must be capable to exercise the profession from a health point of view, and must possess the relevant language knowledge.[336] *Rettungsassistenten* who still possess a professional licence for that profession can continue to use that professional title as long as they also

[328] § 18(6) Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 18(6) Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[329] Recognition for emergency doctors is therefore a multi-step process. The basic medical qualification must thereby first be recognised through a procedure after which a similar recognition procedure must be completed for specialist medical training. Whereas the State Medical Chambers are responsible for conducting this recognition procedure for specialist training, the Bezirksregierung Münster is responsible for recognizing the basic medical qualification; Bezirksregierung Münster, 'Ärzte – Approbation', https://www.bezreg-muenster.de/de/gesundheit_und_soziales/zag/approbation_nrw/muenster/arzt/approbation/index.html.
[330] § 18(7) Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 18(7) Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[331] § 18(5) Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 18(5) Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[332] § 19 Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 19 Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[333] § 19a and 19b Weiterbildungsordnung der Ärztekammer Nordrhein vom 16. November 2019 mit der Richtlinie zur Weiterbildungsordnung vom 4. Dezember 2019; § 19a and 19b Weiterbildungsordnung der Ärztekammer Westfalen-Lippe vom 21. September 2019.
[334] § 4(7) Rettungsgesetz NRW – RettG NRW.
[335] § 1(1) Gesetz über den Beruf der Notfallsanitäterin und des Notfallsanitäters (Notfallsanitätergesetz – NotSanG).
[336] § 2(1)(1-4) Notfallsanitätergesetz – NotSanG.

fulfil the aforementioned requirements.[337] It is also possible for *Rettungsassistenten* to acquire the title of *Notfallsanitäter* if they complete additional training and an examination.[338]

As far as training as ambulance paramedic is concerned, such training is both theoretic (1920 hours) and practical (1960 hours) and takes three years on a full-time basis and a maximum of five years part-time.[339] Apart from theoretical and practical training, candidates must also follow a 720-hour practical hospital training. Exact provisions on the structure of training can be found in the exam regulations for the profession of ambulance paramedic.[340] Ultimately, the training is concluded with a state examination (*staatliche Prüfung*) consisting of a written, oral, and practical part.[341] The practice part of training is thereby undertaken at emergency services that have been recognised as training centres.[342] In order to access training as an ambulance paramedic, candidates must have prior training at secondary school level.[343] During training, candidates acquire a number of competences they must be able to either carry out independently or in cooperation with others.[344] When it comes to the relation between the emergency doctor and the ambulance paramedic, it is possible that the ambulance paramedic carries out certain (invasive) curative measures before the doctor arrives and under their own medical responsibility if they have explicitly learnt to carry out such measures in their training *and* if the measures are necessary to save a patient's life.[345]

For persons qualified in other EU Member States, the equivalence (*Gleichwertigkeit*) of the degree must be proven to fulfil the first condition concerning the relevant qualifications.[346] Equivalence may be found when no substantial differences exist between the qualifications held by the individual concerned and those set out for the profession of *Notfallsanitäter* in the relevant exam regulations.[347] Such substantial differences may exist when either the content of the training and the profession differs or when there is a difference in the scope of professions.[348] In particular, differences are considered to be substantial when they concern an essential part of the profession of *Notfallsanitäter* in Germany. Nevertheless, to assess whether or not such differences exist, account must be had of all the knowledge and experience the professional concerned has acquired over the course of his or her career. In the event that there are substantial differences that cannot be overcome by additional knowledge or experience of the professional concerned, the differences will have to be mitigated via an aptitude test (equal to the *Staatliche Abschlussprüfung* for the profession of *Notfallsanitäter*) or by completing an adaptation period (consisting of theoretical and practical training) of maximum three

[337] § 30 Notfallsanitätergesetz – NotSanG.
[338] § 32(2) Notfallsanitätergesetz – NotSanG. Provisions on the additional examination can be found in § 18-19 of the Ausbildungs- und Prüfungsverordnung für Notfallsanitäterinnen und Notfallsanitäter (NotSan-APrV).
[339] § 5 Notfallsanitätergesetz – NotSanG; § 1(1)(1-3) NotSan-APrV.
[340] § 1(2) NotSan-APrV.
[341] § 5 Notfallsanitätergesetz – NotSanG; § 4 NotSan-APrV. In accordance with § 6 of the NotSan-APrV, candidates must apply for the final examination at a designated body at their school once they have completed all their training activities. § 15-17 of the NotSan-APrV establish in detail what each part of the three-part final examination consists of.
[342] § 5(2)(3) and 6 Notfallsanitätergesetz – NotSanG.
[343] § 8(2) Notfallsanitätergesetz – NotSanG.
[344] § 4 Notfallsanitätergesetz – NotSanG; see also Annexes 1-3 NotSan-APrV for a more detailed overview of the theoretical and practical part of training as an ambulance paramedic.
[345] § 2a Notfallsanitätergesetz – NotSanG.
[346] § 2(3) Notfallsanitätergesetz – NotSanG.
[347] See Ausbildungs- und Prüfungsverordnung für Notfallsanitäterinnen und Notfallsanitäter (NotSan-APrV) for the relevant exam regulations.
[348] § 2(3) Notfallsanitätergesetz – NotSanG.

years.[349] The competent authority has a maximum of four months to decide on the existence of substantial differences and a possible subsequent aptitude test or adaptation period.[350] If such a period/test has been successfully concluded (or if recognition was awarded directly), the professional can carry the title of *Notfallsanitäter/in* and will thereby also obtain the professional licence to carry out the profession.[351]

Rettungssanitäter / Rettungshelfer

Continuing with the professions of *Rettungssanitäter* and *Rettungshelfer* the North Rhine-Westphalian Health Ministry is responsible to designate additional rules on their admission, duration, content, and qualification of their training.[352] Accordingly, provisions for the training and recognition of these professionals are found in a dedicated Training and Examination Regulations. Below the provisions in these regulations are briefly explored for each respective profession. It is important to thereby emphasise that each of these professions has its dedicated training course. Nevertheless, a bridge may be built between both qualifications. In particular, a person having qualified as a *Rettungshelfer* can decide to also become a *Rettungssanitäter* following a shorter course of training.[353]

Furthermore, the criteria to access education and training as a *Rettungssanitäter* or *Rettungshelfer* are the same for both professions. In particular, to be admitted to train for these professions, a person must have reached the age of 17, be physically and mentally fit to perform the work, have concluded secondary education, provide proof of having recently pursued a first aid training course, and provide a certificate of good behaviour not older than six months.[354] If a person with a degree originating from outside of Germany is looking to access either of these professions their qualifications must be recognised by a competent authority in accordance with procedures similar to the ones described above for the profession of paramedic.[355] Apart from these general provisions, the Training and Examination Regulations also establish some provisions that are specific to either the profession of *Rettungssanitäter* or that of *Rettungshelfer*.

[349] § 21(1)(2)(3) NotSan-APrV. This policy is consistent with the EU legislation applicable in this area (i.e. the Professional Qualifications Directive). See Article 13 and 14 Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, [2005] OJ L 255/22 as amended by Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation'), [2013] OJ L 354/132. The consolidated version of the Directive can be consulted at: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02005L0036-20160524&from=EN.

[350] § 23(1) NotSan-APrV.

[351] § 20(3) and 24 NotSan-APrV.

[352] § 4(6) Rettungsgesetz NRW – RettG NRW.

[353] In particular, training is shortened if the individual concerned decide to undertake this training within 24 months of having concluded training as a *Rettungshelfer*; §3 Ausbildungs- und Prüfungsordnung für Rettungssanitäterinnen und Rettungssanitäter sowie Rettungshelferinnen und Rettungshelfer (RettAPO).

[354] § 4 RettAPO.

[355] § 16(1) RettAPO. As of 1 July 2021, the Bezirksregierung Münster has taken over activities concerning the recognition of non-academic medical professions from the Bezirksregierung Düsseldorf. Professionals with foreign qualifications looking to exercise non-academic professions (such as those of *Rettungssanitäter, Rettungshelfer, Rettungsassistent and Notfallsanitäter*) must submit their applications to the Bezirksregierung Münster; Bezirksregierung Düsseldorf – Landesprüfungsamt – Pflege- und Gesundheitsfachberufe (PuG), ‚Änderung der Zuständigkeit', https://www.brd.nrw.de/gesundheit_soziales/LPA-PuG-Start/index.jsp; Bezirksregierung Münster, 'Zentrale Anerkennungsstelle für Pflege- und Gesundheitsfachberufe in Nordrhein-Westfalen', https://www.bezreg-muenster.de/de/gesundheit_und_soziales/zag/servicestelle_pug/index.html.

- ***Rettungssanitäter:*** In the Training and Examination Regulations, one can read that training as a *Rettungssanitäter* takes at least 520 hours of theoretical, clinical/practical, and practical training concluded by a final training course.[356] The total duration of training therefore is generally two years (although exceptionally longer periods of training up to four years may be possible).[357] The objective of the profession of *Rettungssanitäter* is thereby to provide care to patients in ambulance transport and to support the work of ambulance paramedics (*Rettungsassistenten/Notfallsanitäter*) in emergency transport. To conclude training, candidates must apply for their final examination, which is written, practical, and oral in nature.[358]
- ***Rettungshelfer:*** This profession is especially dedicated to driving the ambulance as well as supporting the work of *Rettungssanitäter* in the case of ambulance transport.[359] Training for this profession is composed of at least 160 hours of training consisting of a theoretical and a practical part.[360] The total duration of training is six months (although it may exceptionally be extended to a maximum of two years).[361] To conclude training, candidates must apply for their final examination which is both written and practical in nature.[362]

4.3.3 Insurance Cover

When it comes to reimbursement of care, the Rescue Act NRW is primarily based on the *Wirtschaftlichkeitsgebot* (principle of economic efficiency).[363] That principle is originally taken up in the Social Insurance Code (*Sozialgesetzbuch – SGB V*) and dictates that any medical services performed must be sufficient, appropriate, economical, and proportionate.[364] If such is not the case, insured persons cannot benefit from the services, service providers cannot provide them, and health insurers are not under an obligation to reimburse them. In the case of fixed amounts, the health insurer is to reimburse costs following the fixed amount.[365] As far as fees are concerned, these must be determined in accordance with the *Bedarfspläne* (requirement plans).[366] These plans are determined by each of the *Kreise* and *kreisfreien Städte* and establish, among others, the number and locations of rescue stations, quality requirements, and number of ambulances and other vehicles required.[367] Whereas the requirements plans are therefore determined by the *Kreise* and *kreisfreie Städte*, the draft schedule of fees is to be shared with associations of health insurers as well as the regional association of employer's liability insurance associations (*Landesverband der gewerblichen Berufsgenossenschaften*) for their approval.[368]

[356] § 1(1) RettAPO. See also Annex 1-3 to the RettAPO for a detailed overview of training for the profession of *Rettungssanitäter.*
[357] § 5(1) RettAPO.
[358] § 7(1)(1) and 8(1) RettAPO. See also § 8(3)(4) RettAPO for the particular areas on which the practical and oral parts of the final examination are focused.
[359] § 1(2) RettAPO.
[360] See also Annes 4-5 of the REttAPO for a detailed overview of training for the profession of *Rettungshelfer*.
[361] § 5(1) RettAPO.
[362] § 7(1)(2) and 8(2) RettAPO. See also § 8(6) RettAPO for more details on the practical part of the final examination.
[363] § 2a Rettungsgesetz – RettG NRW.
[364] § 12(1) Sozialgesetzbuch (SGB) Fünftes Buch (V) – Gesetzliche Krankenversicherung.
[365] § 12(2) Sozialgesetzbuch (SGB) Fünftes Buch (V) – Gesetzliche Krankenversicherung.
[366] § 14(1) Rettungsgesetz – RettG NRW.
[367] See § 12 Rettungsgestz – RettG NRW for all provisions on the requirement plans.
[368] § 14(2) Rettungsgesetz – RettG NRW.

As far as care received in other countries is concerned, the Social Insurance Code establishes that insured persons are entitled to use service providers in other EU Member States by way of reimbursement.[369] This is the case unless treatments in the state of treatment are reimbursed on the basis of a lump sum or are not subject to reimbursement due to an agreed waiver of reimbursement. Care must furthermore be received by healthcare providers who are subject of an EU Directive or who are entitled to provide care to insured persons under the respective national insurance system. The reimbursement may thereby not exceed the amount of remuneration received for the service in Germany. An exception is thereby formed by care that can only be received in another Member State – which may be reimbursed in full. However, hospital treatments may only be received in another EU Member State in case of prior authorisation of the health insurer (which may only be refused if care cannot be provided by a contractual partner of the insurer in Germany in good time).[370] Of course, in the case of cross-border cooperation on ambulance transport the latter situation is less relevant. However, the rule that reimbursement may not exceed the amount of remuneration received for the service in Germany is relevant. This means that – if care is more expensive in a neighbouring country – the patient may have to carry the difference in costs. This depends also on possible agreements made in cross-border regions between authorities, rescue services, and health insurers. To give an example: the EMR agreement on emergency ambulance transport provides that the patient and/or their health insurers are responsible for the payment of costs.[371]

Furthermore, rescue services are in principle to carry the costs for tasks incumbent upon them under the Rescue Act NRW.[372] It is thereby interesting to note that missed missions may also be considered chargeable costs. Only in the event that a deployment was necessary without transport having taken place, the rescue service can only demand reimbursement of costs from the person causing the deployment in the case of abuse.

4.3.4 Technical Requirements

Following the Rescue Act NRW, different types of vehicles (ambulances, cars used by emergency doctors, and helicopters) may be discerned which may be deployed in ambulance care.[373] Each of these vehicles must fulfil general standards in medicine, technique, and hygiene to be deployed for medical transport of patients. As far as the road vehicles are concerned, these must be recognised as such by an expert following a dedicated a dedicated decree. According to this decree, ambulances for ambulance transport (non-emergency) must be a certain type of vehicle and contain (at least) materials such as vacuum mattresses, stethoscopes, automatic external defibrillators (AED), and protective equipment against infections.[374] Similarly, specific vehicles are also designated for emergency transport.[375] Ambulance services are allowed to transport several products such as

[369] § 13(4) Sozialgesetzbuch (SGB) Fünftes Buch (V) – Gesetzliche Krankenversicherung.
[370] § 13(5) Sozialgesetzbuch (SGB) Fünftes Buch (V) – Gesetzliche Krankenversicherung.
[371] Article 4(2) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening, Maastricht 29 november 2013.
[372] § 14(5) Rettungsgesetz – RettG NRW.
[373] § 3 Rettungsgesetz – RettG NRW.
[374] Point 1 Zulassung und Normung von Fahrzeugen des Rettungsdienstes sowie deren Farbgebung Runderlass des Ministeriums für Arbeit, Gesundheit und Soziales, vom 9. Januar 2018 mit Stand vom 10.08.2021.
[375] Point 2 Zulassung und Normung von Fahrzeugen des Rettungsdienstes sowie deren Farbgebung Runderlass des Ministeriums für Arbeit, Gesundheit und Soziales, vom 9. Januar 2018 mit Stand vom 10.08.2021.

medicine, blood, organs, and other similar goods as long as they are intended to improve the condition of patients whose life is threatened due to the severity of their injury.[376]

In terms of colours, the vehicles used must adhere to a special colour scheme consisting of yellow, white, and red whereby contrasting accent stripes are applied.[377] Other markings such as text marking the ambulance (i.a. organisation name and sign making it recognisable by air) and including the emergency telephone number may also be included. As far as lights and audio signals are concerned, ambulances and the other vehicles described above can use blue flashing lights and a warning device emitting a sequence of sounds of different basic frequency.[378] In relation to ambulance and emergency transport, the blue lights and audio signals are particularly used in case of life-threatening emergencies. A blue light alone can be used as a warning but does not instil a duty on other road users to clear the way. Furthermore, such lights and audio signals can also be used in the context of cross-border assistance when emergency vehicles such as those in ambulance care perform tasks upon request following the Rescue Act NRW.[379]

4.4 Comparing The Netherlands, Belgium, and Germany: Identifying Obstacles to Cross-border Ambulance Transport

The previous Sections have shown how the medical transport of patients is structured in the Netherlands, Belgium, and Germany (North Rhine-Westphalia) in terms of the general organisation of transport, personnel, qualifications and recognition thereof, insurance cover, and technical requirements. The present Section seeks to compare the national systems on the aforementioned topics to see where bottlenecks arise in particular and to see – in light of the present opportunities for cooperation in the context of existing agreements – to which extent these may be resolved.

4.4.1 Assessing the Different Types of Medical Transport of Patients

When comparing the different types of medical transport of patients, it is clear that the differences in how the types of transport are structured across the countries analysed constitutes the primary obstacle related to organising cross-border ambulance and intensive care transport. Indeed, this corresponds with the findings from the interviews where stakeholders indicated that differences originating from the different systems were most difficult to overcome.

[376] § 2(5) Rettungsgesetz – RettG NRW.
[377] Point 4 Zulassung und Normung von Fahrzeugen des Rettungsdienstes sowie deren Farbgebung Runderlass des Ministeriums für Arbeit, Gesundheit und Soziales, vom 9. Januar 2018 mit Stand vom 10.08.2021.
[378] Point 1.2 Ausrüstung und Verwendung von Kennleuchten für blaues Blinklicht (Rundumlicht) und von Warnvorrichtungen mit einer Folge von Klängen verschiedener Grundfrequenz (Einsatzhorn) an Einsatzkraftfahrzeugen der Feuerwehren, der Einheiten und Einrichtungen der Gefahrenabwehr und des Rettungsdienstes, Gem. RdErl. D. Ministeriums für Verkehr, Energie und Landesplanung – III B 2 – 21-31/2010-, d. Innenministeriums – 73 – 52.07.01 – u. d. Ministeriums für Gesundheit, Soziales, Frauen und Familie – III 8-0713.2.6.2/1 – v. 05.03.2004 mit Stand vom 10.08.2021.
[379] See Point 1.3 and Points 2.1 and 2.2 Ausrüstung und Verwendung von Kennleuchten für blaues Blinklicht (Rundumlicht) und von Warnvorrichtungen mit einer Folge von Klängen verschiedener Grundfrequenz (Einsatzhorn) an Einsatzkraftfahrzeugen der Feuerwehren, der Einheiten und Einrichtungen der Gefahrenabwehr und des Rettungsdienstes, Gem. RdErl. D. Ministeriums für Verkehr, Energie und Landesplanung – III B 2 – 21-31/2010-, d. Innenministeriums – 73 – 52.07.01 – u. d. Ministeriums für Gesundheit, Soziales, Frauen und Familie – III 8-0713.2.6.2/1 – v. 05.03.2004 mit Stand vom 10.08.2021.

Table 3 on the next page provides an overview of the different types of medical transport of patients organised in accordance with the severity of the emergency. From this overview, it becomes apparent that all three countries examined distinguish urgent/life-threatening transport from non-urgent/non-life-threatening transport. Starting with non-urgent/non-life-threatening transport, we may see that Belgium and North Rhine-Westphalia maintain either non-urgent patient transport or transport in non-life threatening situations as secondary categories of ambulance transport. The Netherlands, by contrast, distinguishes two separate categories: one in non-life-threatening emergencies and one in non-urgent transport.

Moving on to the most serious of emergencies, the Table shows that the Netherlands and North Rhine-Westphalia provide for ambulance transport in the case of life-threatening emergencies. The difference between these two systems is that in North Rhine-Westphalia a separate vehicle with an emergency doctor accompanies the ambulance while in the Netherlands it is merely the ambulance who will ride to the scene of the emergency. Nevertheless, in the case of severe emergencies, it is possible that a Mobile Medical Team (consisting of an emergency doctor and nurse) is also called to the scene. Belgium has a similar structure where medical emergencies are covered by an ambulance whereby it is also possible that a Mobile Urgency Group is also called to the scene of the emergency. Nevertheless, different from both the Netherlands and North Rhine-Westphalia, Belgium also knows Paramedic Intervention Teams who may intervene in life-threatening emergencies.

Moving on to IC transport, we may see that the Netherlands and North Rhine-Westphalia consider IC transport as a separate category. In the Netherlands, we may see that intensive care transport is divided across separate categories of patients (distinguishing paediatric and neonatal intensive care transport from other intensive care transport). Such transport is thereby undertaken by vehicles different from ambulances and with a different team. By contrast, in North Rhine-Westphalia, intensive care transport can be undertaken by both ambulances as well as *Intensivtransportwagen* (dedicated vehicles) which are generally staffed by the same team as would ride on an ambulance in emergency transport. This is mainly due to the fact that IC transport in North Rhine-Westphalia is considered to form a part of emergency transport in life-threatening situations.

Type of care	NL	BE	DE (NRW)
Ambulance care	Ambulance transport in life-threatening emergencies (A1-level)	Paramedic Intervention Team (life-threatening emergencies)	Emergency transport in life-threatening situations consisting of: - Ambulance - Vehicle with emergency doctor
		Ambulance transport in medical emergencies	
	Mobile Medical Teams (in addition to ambulance)	Mobile Urgency Group (in addition to ambulance)	
	Non-life threatening emergencies (A2-level)		
	Non-urgent transport (B-level)	Non-urgent patient transport	Ambulance transport in non-life-threatening situations
Intensive care	Mobile Intensive Care Units (MICUs) Paediatric Intensive Care Units (PICU) Neonatal Intensive Care Units (NICUs)	Non-urgent patient transport or Ambulance transport in medical emergencies with the assistance of Paramedic Intervention Team/Mobile Urgency Group	Undertaken by in the context of emergency transport via use of: - Ambulances - *Intensivtransportwagen*

Table 3 Overview of the types of medical transport of patients in the Netherlands, Belgium, and Germany (North Rhine-Westphalia)

4.4.2 Comparing Provisions on Professional Regulation, Qualifications & Recognition

Whereas the Table and analysis above show that there are some similarities regarding the type of medical transport of patients and the situations in which it applies, the picture becomes more complicated when the different categories of medical transport of patients are combined with the staff deployed in the vehicles. It is here that the respective systems start to diverge more. Table 4 below provides an overview of the main categories of staff deployed in the different types of medical transport of patients.

	NL	BE	DE (NRW)
Emergency care			
Belgian Paramedic Intervention Team		Spoedeisendehulp-verpleegkundige	
		Ambulancier	
Ambulances NL/BE/NRW			Notarzt
	Ambulanceverpleegkundige	Hulpverlener-ambulancier	Notfallsanitäter Rettungsassistent
	Ambulancechauffeur		
Optional Deployment NL: MMT BE: MUG	Medisch specialist/arts spoedeisende geneeskunde	Spoedarts	
	IC-verpleegkundige	Spoedeisendehulp-verpleegkundige	
Non-emergency care			
	Verpleegkundige midden-complexe ambulancezorg	Ambulancier niet dringend patiëntenvervoer	Rettungssanitäter
	Verzorgende IG (laag-complexe ambulancezorg)		
	Chauffeur laag- en middencomplexe ambulancezorg		Rettungshelfer
Intensive care			
	Medisch specialist/arts spoedeisende geneeskunde	Gespecialiseerde arts	Notarzt
	IC-verpleegkundige	Spoedeisendehulp-verpleegkundige	Notfallsanitäter Rettungsassistent
	Ambulancechauffeur	Hulpverlener-ambulancier	
		Ambulancier niet dringend patiëntenvervoer	

Table 4: Ambulance care personnel and their deployment in the Netherlands, Belgium, and Germany (North Rhine-Westphalia)

From the Table, it becomes clear that, depending on the type of medical transport, different professionals are deployed. The greatest consistency in personnel can thereby be seen in North Rhine-Westphalia where the similar professions are deployed depending on whether transport concerns emergency transport (life-threatening situation) or ambulance transport (non-life-threatening situation). Belgium also deploys similar personnel depending on the complexity of care, meaning roles are divided between emergency doctors, emergency nurses, paramedics, and non-urgent transport ambulance nurses. By contrast, the greatest variety in professions can be seen in the Netherlands where – depending on the type of transport – emergency doctors, IC nurses, ambulance nurses,

ambulance drivers, nurses for medium complex care, healthcare assistants, and chauffeurs for low- and medium complex care are deployed. Although this differentiation of care has the advantage of alleviating possible shortages of staff, viewed from a cross-border context it is liable to complicate the exchangeability of staff due to the greater variety of professions.

Indeed, an important aspect to denote concerns the difference in qualifications of these professionals. Table 4 on the previous page provides a simplified overview of the professionals in medical transport of patients by placing professionals with a similar role next to one another. Nevertheless, the fact that the role of professionals can be considered similar in relation to a particular type of transport does not mean that the qualifications leading persons to be qualified to exercise those professions are directly comparable. One prime example of such a difference can be seen in ambulance care across the Netherlands, Belgium, and North Rhine-Westphalia. The Netherlands thereby has an *Ambulanceverpleegkundige,* Belgium a *Hulpverlener-ambulancier*, and North Rhine-Westphalia a *Notfallsanitäter/Rettungsassistent*. Although these professionals are deployed in comparable situations, their training is different. Different from the professions of *Hulpverlener-ambulancier* and *Notfallsanitäter/Rettungsassistent*, the Dutch profession of *Ambulanceverpleegkundige* can only be exercised after having pursued advanced training. This means that ambulance nurses who were trained in the Netherlands have first trained as a general nurse – and sometimes also as a specialist nurse in, for example, intensive care or anaesthesiology – before training as ambulance nurses. Such differences in training can subsequently also give way to differences in competences and the level of autonomy professionals have in their profession.

Such differences may subsequently complicate the recognition of qualifications and cross-border deployment of ambulance professionals. Two situations may be distinguished to achieve such cross-border deployment:

1. Authorities in a cross-border region have made agreements to permit the conditional cross-border deployment of professionals active in ambulance care (as is the case for the *rendez-vous* system in the EMR)
2. Individual healthcare professionals obtain recognition of their qualifications in a neighbouring country

Whereas the former allows professionals to work in multiple countries in a cross-border region in accordance with the conditions set in the agreement, the latter allows professionals to become a full part of the profession in a neighbouring country. The latter option may, therefore, at first appear as the most desirable option if actors in cross-border regions are looking to achieve a greater cross-border deployment of ambulance staff. Nevertheless, a few caveats may be identified. First, in order to obtain recognition, one must first go through a recognition procedure. As the paragraphs on recognition in subsections 4.1.2, 4.2.2, and 4.3.2 have shown, such procedures may themselves take up to a maximum of four months and can be connected to compensation measures (i.e. an adaptation period of max. three years or aptitude test).[380] Furthermore, doctors and nurses with a specialisation

[380] See Sections 4.1.2, 4.2.2, and 4.3.2 for the specific provisions in national law governing the process of recognition. It may be recalled that these procedures all originate from EU law where they can be found especially in Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, [2005] OJ L 255/22 as amended by Directive 2013/55/EU of the European Parliament and of the Council of

may need to go through a two-step recognition procedure at different authorities to first obtain recognition of their basic qualification and subsequently acquire recognition of their specialisation. Although this does not apply in the Netherlands, where several of the professions in ambulance care are not regulated by law,[381] professionals with qualifications from neighbouring countries may face different issues in the case of these professions. Employers may not be familiar with their qualifications or consider them too different in light of medical guidelines, standards, and protocols set by the medical field, meaning they are not confident in employing such professionals from neighbouring countries.[382] This may again be particularly relevant for the profession of *ambulanceverpleegkundige* in the Netherlands which consists of prior training in nursing.[383]

Another aspect that has not been touched upon yet concerns the difference between the recognition of qualifications and access to the profession. Whereas it is possible that recognition is the only precondition to exercising the profession (e.g. in the case of *verzorgenden IG* in the Netherlands), it is also possible that recognition of qualifications is just one step in obtaining the necessary authorisation or licence to work in a neighbouring country. Apart from having the right qualifications, professionals applying for recognition may also need to provide evidence of their language knowledge, of their physical and mental suitability, and of their good conduct. Professionals must, for example, fulfil such additional criteria to obtain the necessary BIG registrations in the Netherlands, required *visum* in Belgium, and *Erlaubnis* in Germany.[384]

These considerations show that acquiring recognition in a neighbouring country is not a simple task. Furthermore, the system for the recognition of qualifications as established at EU level is designed on the basis of the premise that a professional wants to fully work in another Member State. In this context, reference should also be made to requirements related to continuous professional development. If professionals want to continue to be able to work in multiple countries – they will have to fulfil the standards on continuous professional development to keep their knowledge of their field up-to-date in all the countries in which they are registered. Another factor to be added to these considerations related to the recognition of qualifications concerns the findings from the interviews. Section 2.2 of this report already showed that stakeholders consulted questioned the added value of achieving full exchangeability of staff in a cross-border region, considering it may not yet be necessary and may rather be a topic for the future.

Nevertheless, there are some actions that may be undertaken to ensure that professionals active in the medical transport of professionals can be deployed in more than one country. Naturally, regular exchanges and trainings as mentioned by the interviewees are a straightforward way of increasing awareness on the respective professions and systems. It is furthermore imaginable that such

20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation'), [2013] OJ L 354/132. The consolidated version of the Professional Qualifications Directive can be consulted at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02005L0036-20160524.

[381] In particular, this concerns the nursing specialisations *ambulanceverpleegkundige* and *IC-verpleegkundige*, the profession of *ambulancechauffeur, verpleegkundige midden-complexe ambulancezorg,* and the profession of *chauffeur laag- en middencomplexe ambulancezorg*.

[382] For an example in the case of IC nurses see L. Kortese, 'De Grensoverschrijdende Mobiliteit van Gespecialiseerde Verpleegkundigen IC – Nederland/België', ITEM Maastricht, March 2018.

[383] Furthermore, Belgian *Hulpverleners-ambulanciers* and German-trained *Notfallsanitäter/Rettungsassistente* cannot directly be put to work in the Netherlands as *ambulanceverpleegkundige* since they have not acquired prior training in nursing (required in the Netherlands to access the ambulance specialization).

[384] § 2 Notfallsanitätergesetz – NotSanG;

exchanges and/or trainings could be extended into an internship-type structure through which professionals can get acquainted with the medical practices across the border. Some interviewees reported to have positive experiences with such brief internships. These activities could subsequently be a steppingstone for professionals to decide to apply for recognition in a neighbouring country and also become qualified professionals there.

In this context, it may be of added value to involve certain large employers, supervisory bodies, or competent authorities in the development of such exchanges, trainings, and internships. This involvement may serve to facilitate the further integration of professionals with qualifications from neighbouring countries. In relation to the Netherlands, where not all medical transport professions are formally regulated, such involvement could even have the positive effect of instilling confidence in supervisory bodies and employers, making the employment of professionals with qualifications from neighbouring countries more likely. Similarly, for Belgium and North Rhine-Westphalia (where all medical transport professions are regulated), the involvement of authorities competent for the recognition of qualifications may lead to the exchanges, trainings, and traineeships proposed being considered as work experience in the host country. If a professional decides to undergo a formal recognition procedure, this may in turn contribute to "lighter" adaptation measures and aptitude tests or, in a best-case scenario, an absence thereof and direct recognition.

Another alternative and more formal route to enhance the exchangeability of medical transport professionals may nevertheless be identified in the legislation on the recognition of qualifications. As indicated before in this report, procedures for the recognition of qualifications are laid down at EU-level in a specific Directive (the Professional Qualifications Directive).[385] That instrument provides for procedures on recognition applicable in different situations. So far, the focus in this report has been on procedures through which professionals may **establish** themselves in another Member State (i.e. **become fully integrated into the profession of another Member State**). Nevertheless, the Directive also foresees procedures for **service provision**. Through these procedures, professionals have the opportunity to **"temporarily and incidentally" travel to another Member State to exercise their profession**. In fact, these procedures are considered especially relevant for professionals providing cross-frontier services.[386] These procedures for service provision enable professionals who are legally established in one Member State to exercise the same profession on a temporary and occasional basis in another Member State.[387]

It is important to emphasise three aspects of this procedure: first, the procedure is only applicable to professions that are formally regulated. Although it is therefore relevant for all professions taken up in Table 4 for Belgium and North Rhine-Westphalia, it cannot be applied to all professions in the Netherlands. More specifically, Dutch professionals going to Belgium and North Rhine-Westphalia may generally benefit from the procedure for service provision. By contrast, this is not the case for Belgian and North Rhine-Westphalian professionals looking to exercise the specialist nursing

[385] Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, [2005] OJ L 255/22 as amended by Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System ('the IMI Regulation'), [2013] OJ L 354/132. The consolidated version of the Professional Qualifications Directive can be consulted at https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02005L0036-20160524.
[386] See Recital 6 Professional Qualifications Directive.
[387] Article 5(1)(2) Professional Qualifications Directive.

professions of *ambulanceverpleegkundige* and *IC-verpleegkundige*, the profession of *ambulancechauffeur, verpleegkundige midden-complexe ambulancezorg,* and the profession of *chauffeur laag- en middencomplexe ambulancezorg*.[388] Second, a corresponding profession must be found since professionals must exercise the same profession. Third, the service provision must be temporary and occasional. If the exercise of the profession does not have this nature, the procedures for establishment become applicable again.

In order to establish whether service provision is temporary and occasional, competent authorities will assess the nature of the service provision on a case-by-case basis in relation to its duration, frequency, regularity, and continuity.[389] If granted, the professional will be subject to the professional rules (including use of titles and provisions on malpractice) of the *host* Member State.[390] This is therefore an important difference with the current *rendez-vous* system where professionals exercise their profession on the basis of their *home* country standards.

Nevertheless, in the case of service provision professionals do not have to go through lengthy recognition procedures because the system is based on the professional's establishment in the home country.[391] In order to provide services the professional must inform the competent authority in the host Member State via a written declaration of the services to be granted.[392] The professional will thereby include details of their insurance cover or other means of personal or collective protection related to professional liability. That declaration must subsequently be renewed annually for the service provider to continue exercising the profession. Additionally, service providers will provide documentary proof of, among others, their nationality, an attestation of their legal establishment in their home Member State, evidence of their professional qualifications, and proof of language knowledge.[393]

Since professions in ambulance care and IC transport have public health implications, the competent authority in the host Member State may check the professional qualifications of the service provider before the first provision of services.[394] The result of this check will either be that the service provision is allowed or that the professional must complete an aptitude test (in case substantial differences are found) to prove their suitability for the profession.[395] The result of the check must furthermore be finalised within a maximum of two months. This means that the deadlines for the service provision procedures are much shorter than those under the regime for establishment. Furthermore, if the competent authority does not react within the designated deadlines, the service may be provided. Furthermore, the professional will generally be able to exercise their profession temporarily and occasionally in the whole territory of the host Member State.[396] The professional will then conduct activities under their *home* Member State professional title – so as to avoid confusion.[397]

[388] Therefore, the procedures on service provision would only be available in the Netherlands for the professions of general care nurse, healthcare assistant (*Verzorgende IG*), doctor with basic training, and medical specialist.
[389] Article 5(2) Professional Qualifications Directive.
[390] Article 5(3) Professional Qualifications Directive.
[391] In essence, Member States therefore exercise mutual trust and recognition of the home Member State registration.
[392] Article 7(1) Professional Qualifications Directive.
[393] Article 7(2)(a-g) Professional Qualifications Directive.
[394] Article 7(4) Professional Qualifications Directive.
[395] Article 7(4)(b) Professional Qualifications Directive.
[396] Article 7(2a) Professional Qualifications Directive.
[397] Article 7(3) Professional Qualifications Directive. An exception to this rule applies in the event that a professional has undergone an adaptation test under Article 7(4)(b)(i) of the Directive. In that case, the professional may use the title of the *host* Member State.

4.4.3 Evaluating the Insurance Coverage and Reimbursement of Cross-border Ambulance Care

Several interviewees reported issues on insurance coverage: it was not always clear how cross-border ambulance care would be reimbursed. On the EU level, the social security coordination Regulations (Regulation 883/2004 and Implementing Regulation 987/2009), and the Patients' Rights Directive 2011/24 (based on case law from the Court of Justice) as two complementary systems[398] lay down rules and conditions under which cross-border healthcare may be sought and reimbursed. Next to the differences between these two instruments in reimbursement mechanisms and whether prior authorization is required, it has to be noted that Regulation 883/2004 applies to both planned and emergency care, while Directive 2011/24 may only be applied in planned (foreseen) situations. Therefore, the Regulation is relevant in both emergency and planned ambulance transport, while the Directive may only be invoked in the latter.

On the basis of the Regulation, patients are only able to obtain planned healthcare in another Member State with prior authorization[399] (presenting S2-form to the healthcare provider, known before as E-112).[400] Nevertheless, in the landmark judgments in *Kohll*[401] and *Decker*[402] the Court ruled that the system of prior authorization hinders the free movement of goods and services and should be, in principle, prohibited. These rules are now codified into Directive 2011/24/EU which offers the possibility for patients to obtain care in another Member State without prior authorization[403] unless, for instance, it concerns highly specialized/costly equipment or involves in-patient overnight hospital care.[404]

Regarding emergency care, an insured person is entitled to receive treatment which becomes necessary on medical grounds during their stay in another Member State. In order to be eligible for reimbursement, the treatment must be medically necessary, taking into account the nature of the sickness benefit and the expected length of the stay.[405] Practically, a person can attest to be insured in one Member State by showing their European health insurance card (EHIC, before known as the E-111 form).[406]

However, it is not completely clear how these rules are applicable to cross-border ambulance care. The above provisions refer to typical situations when a person is staying in another Member State and is treated by the local health providers. However, in the field of cross-border ambulance care, it may be that a patient is in need of ambulance care in their home Member State, but due to the "*rendez-vous*" system a foreign ambulance service arrives at the scene of the emergency. This situation leading to issues in reimbursements is also reported by the interviewees to especially arise between Germany and the Netherlands.[407] However, following the definition of cross-border healthcare provided by the

[398] Art. 2 Directive 2011/24.
[399] Art. 20 of Regulation 883/2004.
[400] Art. 26 Implementing Regulation 987/2009.
[401] C-158/96 *Kohll* [1998].
[402] C-120/95 *Decker* [1998].
[403] Arts. 7-8 Directive 2011/24.
[404] Art. 8(2) Directive 2011/24.
[405] Art. 25(a) of Implementing Regulation 987/2009.
[406] Council Decision 2003/753/EC.
[407] Interview 5 – Local Ambulance Service – 17 May 2021.

Directive,[408] conclusions could be made that the EU instruments do not explicitly refer to healthcare provided in another Member State, as also emphasized by the European Commission.[409] Instead, they may apply to other healthcare situations involving a cross-border element. Following this reasoning also the reimbursement of care by foreign healthcare service provided in the home Member State could be settled following the EU system between the national authorities.

As seen in Section 4 on the national systems, insurance coverage of ambulance care may vary in the Euregio Meuse-Rhine. It is also reported by an interviewee that additional obstacles may arise in the differences of tariffs and the financing systems: while in Germany the ambulance service sends bills directly to the insurers, in the Netherlands two payments are made (one to the ambulance service, one to the hospital).[410] Furthermore, it was seen in the analysis of the national systems that there are differences in whether costs of emergency or planned ambulance could be recovered from the health insurers. Additional challenges could arise from the difference in rates – in the Netherlands and Belgium costs of ambulance care are laid down at the national level, whereas in Germany the fees differ between *Kreise* and *kreisfreie Städte.* Also, care provision is less expensive in North Rhine-Westphalia compared to the Netherlands.[411]

It was suggested by an interviewee that these matters could likely be resolved by making agreements at a higher administrative level.[412] Such a financial agreement has indeed been concluded in the Benelux framework, laying down a detailed regulation on explanation in which way costs in the event of a cross-border deployment of ambulances may be charged.[413] For instance, in case a Belgium ambulance or MUG intervenes in the Netherlands, they may request S2-form from the patient's health insurance, that is sent accompanied by the invoice to the Belgian insurance institution, which in return will recover the paid amount from the Netherlands.[414] Alternatively, the care may be reimbursed on the basis of Dutch health insurance policy (for instance, sending the invoice directly to the patient's healthcare insurer).[415]

An agreement on the reimbursement of the care has also been concluded between the Netherlands and Germany, however in lesser detail. Under the *Publiekrechtelijke Overeenkomst Grensoverschrijdende Buren-Ambulancehulpverlening* (EMR Agreement), it is stipulated that the costs of deployment of ambulance are calculated by the ambulance service that provided the transport. The costs are based on applicable rates and are charged from the patient's healthcare insurance company by the party that provided the transport.[416]

[408] Art. 3(e) Directive 2011/24 defines cross-border healthcare as 'healthcare provided or prescribed in a Member State other than the Member State of affiliation'.
[409] Communication from the Commission: Guidelines on EU Emergency Assistance in Cross-Border Cooperation in Healthcare related to the COVID-19 crisis. C(2020) 2153 final, footnote 1.
[410] Interview 9 – Local Hospital – 9 June 2021.
[411] Interview 1 – Partnership – 24 February 2021.
[412] Interview 9 – Local Hospital – 9 June 2021.
[413] Omzendbrief VI nr 2014/216 van 23 mei 2014: *Beschikking van het Comité van Ministers van de Benelux Economische Unie van 8 december 2009 met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer (M(2009)8) Financiële regeling betreffende de wijze waarop de kosten van de grensoverschrijdende inzet van de ambulances in rekening worden gebracht (artikelen 3 en 4 van de Beschikking).*
[414] Ibid., Section 2.1.
[415] Ibid., Section 2.2.
[416] Section 4 *Publiekrechtelijke Overeenkomst Grensoverschrijdende Buren-Ambulancehulpverlening.*

These agreements may be considered as best practice in organising reimbursements in the field of cross-border ambulance care. Nevertheless, the agreements only refer to emergency care – showing again, as indicated in several interviews, that cooperation is focused on lesser extend to planned (intensive) ambulance transport. Nonetheless, similar agreements could be made to ensure the clarity of reimbursements and prior authorisations in the EMR region on both emergency and planned ambulance care. Such agreements are also supported by the EU. Next to Art. 168 TFEU which in particular encourages cooperation of health services in cross-border areas, the Directive similarly states that cooperation is especially essential in border regions and the most efficient way of organising health services may require sustainable cooperation between the Member States.[417] Due to its scope, the Directive could be especially relevant when establishing agreements on the reimbursement of planned IC transport. Nevertheless, similar provision on cooperation can also be found under the Regulations[418] (thus also applicable to emergency ambulance care). Furthermore, in the context of COVID-19 patient transports and intensive care, the Commission has urged Member States to coordinate and cooperate in healthcare in border regions and provide clarity on the reimbursement of these healthcare costs.[419]

It was also indicated by an interviewee that obstacles such as reimbursement have been able to be solved in practice by agreements among the parties (such as the insurers), where legal changes have not been necessary.[420] Another interviewee dedicates that such obstacles are no longer an issue due to the provisions at EU level and efforts of EMRIC.[421] Therefore, next to formalising reimbursements in financial agreements, the relevant authorities could rely on the existing frameworks and take a pragmatic approach in seeking solutions.

4.4.4 A Comparison of Technical Requirements

As already examined in Section 3.1, in agreements of ambulance care between Netherlands and Germany, next to mutual recognition of legislative standards of the personnel deployed, the participants assume that their vehicles and their technical equipment are professionally suitable.[422] Similarly, the Benelux decision includes provisions on the mutual recognition of ambulance vehicles and technical equipment.[423] Nevertheless, the interviewees identify certain obstacles arising from the difference of technical requirements: the ambulances in the neighbouring regions do not carry the same equipment and their compatibility may vary.[424]

In the interviews, it was indicated that technical requirements such as the equipment within the ambulance are important to take into consideration from the point of transferability. An ideal arrangement would be for neighbouring countries' vehicles to have equivalent equipment, allowing

[417] Art. 10(3) Directive 2011/24, Rec. 50 Directive 2011/24.
[418] Art. 76 Regulation 883/2004, Rec. 2 Regulation 987/2009
[419] Communication from the Commission: Guidelines on EU Emergency Assistance in Cross-Border Cooperation in Healthcare related to the COVID-19 crisis. C(2020) 2153 final.
[420] Interview 6 – National Ministry – 17 May 2021.
[421] Interview 8 – Regional Authority – 26 May 2021.
[422] Article 1(2)(d) Publiekrechtelijke Overeenkomst – Grensoverschrijdende Buren-Ambulancehulpverlening.
[423] Article 11 Beschikking van het Comité van Ministers van de Benelux Economische Unie met betrekking tot het grensoverschrijdend spoedeisend ambulancevervoer, M(2009) 8.
[424] Interview 4 – Local Ambulance Service – 10 May 2021; Interview 9 – Local Hospital – 9 June 2021.

more flexibility regarding the deployment of ambulances and staff who may ride and provide treatment on either country's transport vehicles.[425]

Nevertheless, although a standardised list of minimum materials exists on the national level in Belgium and the Netherlands, and on the *Bundesländer*-level of North Rhine-Westphalia, the compatibility and manufacturers of equipment may also vary within the national borders from one ambulance service to another. It has to be also noted that the equipment carried may differ between types of ambulances, such as MICUs in the Netherlands or MUG/PIT in Belgium, compared to regular ambulances. However, as regards to other obstacles experienced in cross-border ambulance care such as the varying competences of ambulance professionals, solutions could be sought on the basis of above-mentioned mutual recognition provisions and by better information sharing to improve familiarity with each other's system. On a long-term note, the respective systems could seek to harmonise the list of equipment in the ambulances. This would not only contribute to the better exchangeability of vehicles, but also to better exchangeability of staff as stated by an interviewee.[426] It also worthwhile to consider that on the EU-level, standardisation of ambulances and medical transportation vehicles is set out in CEN 1789:2020 providing general requirements on medical devices carried out in ambulances and vehicle standards. These standards could provide a basis for further harmonisation of equipment and the vehicles in cross-border ambulance care in the Euregio Meuse-Rhine.

Nonetheless, the issues reported did not only consider the list of materials, but also their maintenance and quality checks – it was indicated that the countries maintain different frequencies to check the quality of equipment on board in the ambulance.[427] Furthermore, in the Netherlands the MICU works with the materials of the ambulance sent by the hospitals, while in Germany appliances are not fixed in the ambulance and more changes of the equipment may be necessary.[428] In the past, issues had also been identified in the transport of opiates.[429] Therefore, next to finding solutions on equipment, solutions would needed to be also sought on quality checks and operational differences as well as the legal position of transport of certain medical substances across the border.

Comparing the use of audio and visual signs, the countries' approach does not seem to differ drastically. In Germany, ambulances may use blue flashing signs and sirens in case of life-threatening emergencies; similar as in in the Netherlands in the highest-level of emergency (life-threatening situation A1), an ambulance is sent with optical and acoustic signals. In Belgium, blue lights and audio signals are also used in emergencies. Furthermore, agreements have been made between the Netherlands and Germany and Belgium on the use of signals when ambulances from the Netherlands

[425] Interview 9 – Local Hospital – 9 June 2021.
[426] Interview 9 – Local Hospital – 9 June 2021.
[427] Interview 4 – Local Ambulance Service – 10 May 2021.
[428] Interview 9 – Local Hospital – 9 June 2021.
[429] Interview 5 – Local Ambulance Service – 17 May 2021. Regarding the transfer of opiates, in the Netherlands import and export of opiates is only permitted in exceptional situations (see Opiumwet). In Germany, import and export of opiates may be done by doctors, also in cross-border context (see §4(1)4 Gesetz über den Verkehr mit Betäubungsmitteln). It is unclear what are the implications of the Dutch legislation in a cross-border context and whether in the light of the German legislation other ambulance professionals than doctors could transport opiates. In Belgium, no regulation on the import of export of such substances was found, besides Royal Decree 6 September 2019 regulating certain narcotic drugs and psychotropic substances, however it is unclear whether the type of opiates used in ambulance care fall under this Decree.

are deployed across the border.[430] It is also mentioned in German legislation, that lights and audio signals may be used in the context of cross-border assistance when emergency vehicles such as those in ambulance care perform tasks upon request following the Rescue Act NRW.[431] Therefore, in regard of use of audio-visual signals no immediate legal obstacles are identified: in the interviews these obstacles were also referred to as issues seen in the past.[432]

4.4.5 Moving Forward: Identifying Steps & Recommendations to Strengthen Cross-border Cooperation in the Medical Transport of Patients

Although the different findings made in this report have shown that considerable differences exist at the national level when it comes to the medical transport of patients, it is also clear that there is a **solid basis for strengthening cooperation further**. Indeed, results from the interviews showed that the ongoing cooperation on ambulance care based on the *rendez-vous* system is evaluated very positively. Nevertheless, when looking to the future, cross-border cooperation on medical transport of patients focused exclusively on life-threatening situations is considered to no longer suffice to provide high quality care in the Dutch cross-border regions with Belgium and Germany (North Rhine-Westphalia).

During the interviews, the advice was at one point expressed to carry out **minimal tuning to achieve maximal effects.** Indeed, based on the systemic differences perceived between the Netherlands, Belgium, and Germany (North Rhine-Westphalia), **cross-border cooperation on the medical transport of patients is more likely to be achieved when keeping present structures intact and achieving their cross-border movement through mutual recognition rather than seeking to mix systems in terms of staff and equipment.** Furthermore, based on the interviews and the legislative and policy analysis, a gradual approach may be proposed to intensify cooperation on different types of medical transport of patients.

The most straightforward recommendation – and **first step** – is to **intensify coordinating and networking efforts**. As the interviews have shown, stakeholders attributed operational cooperation and knowing one another as important success factors for cooperation. EMRIC was thereby mentioned as a best practice enabling both cooperation and coordination of the activities of different stakeholders. In line with the recommendation to intensify coordinating and networking efforts, the organisation of regular forums at various administrative levels (from the cross-border regional level to the national level) can help to strengthen cooperation and to draw attention to the importance of cross-border ambulance care in border regions. The purpose of such regular meetings should then be to **discuss issues, create policy, adapt processes, and organise joint training** – all preparatory efforts to move to a more structured form of cooperation. Indeed, **joint training, exchanges, and internships** can be considered suitable means to increase awareness of the respective systems (especially on

[430] Brancherichtlijn Optische en geluidssignalen spoedeisende medische hulpverlening 2016, https://www.ifv.nl/kennisplein/Documents/20160101-VVN-AmbulancezorgNL-Brancherichtlijn-optische-en-geluidssignalen-SMH.pd.

[431] See Point 1.3 and Points 2.1 and 2.2 Ausrüstung und Verwendung von Kennleuchten für blaues Blinklicht (Rundumlicht) und von Warnvorrichtungen mit einer Folge von Klängen verschiedener Grundfrequenz (Einsatzhorn) an Einsatzkraftfahrzeugen der Feuerwehren, der Einheiten und Einrichtungen der Gefahrenabwehr und des Rettungsdienstes, Gem. RdErl. D. Ministeriums für Verkehr, Energie und Landesplanung – III B 2 – 21-31/2010-, d. Innenministeriums – 73 – 52.07.01 – u. d. Ministeriums für Gesundheit, Soziales, Frauen und Familie – III 8-0713.2.6.2/1 – v. 05.03.2004 mit Stand vom 10.08.2021.

[432] Interview 5 – Local Ambulance Service – 17 May 2021; Interview 6 – National Ministry – 17 May 2021.

topics such as professional regulation, protocols and standards, competences of professionals, and materials used). In this context, a **scientific evaluation of national protocols** from a medical perspective was considered useful by interviewees. Indeed, such an evaluation may increase awareness on the respective systems and specify areas of focus to be emphasised in the trainings, exchanges, and internships.

Another opportunity to strengthen contacts and cooperation in preparation of more structured cooperation is, of course, through **projects**. Another important point to ensure cross-border cooperation on medical transport of patients may be intensified is **continuity of personnel and staff dedicated to the topic of cross-border cooperation**. Again, a recommendation resulting from the interviews, it was indicated that having specific staff tasked with cross-border cooperation was necessary since the topic is too vast to be added to existing staff functions. As far as projects and dedicated staff are concerned, these topics require particular attention as far as their **funding** is concerned, since sufficient financing should be available to employ dedicated staff on a fixed basis and continue cooperation even after a project has formally ended.

These activities described above – and perhaps especially those concerning coordination and networking – can also be used to **identify the other type of medical transport of patients stakeholders want to see advanced**. This is an important **second and more advanced step** to further cooperation on the medical transport of patients. Indeed, during the interviews, it was pointed out that to strengthen cooperation you need to have a sense of what type of cooperation is aimed for. More specifically, stakeholders could make use of Table 3 in this report to determine the type of transport they believe should be advanced next. Additionally, stakeholders should thereby determine the conditions under which cross-border deployment is necessary. If, for example, stakeholders would agree that non-emergency ambulance care is the next type of medical transport on which to strengthen cooperation, they should determine the vehicles and staff involved in each of the countries as well as the exact conditions as to when it is necessary to make use of cross-border non-emergency ambulance care. Once clarity is achieved as to the next type of medical transport of patients to be advanced, consideration can be had of aspects concerning qualifications and competences, technical requirements, and reimbursements.

Once another form of medical transport of patients is identified (step 2) and possible preparatory activities undertaken (step 1), attention can be given to formalising cooperation (**step 3**). Moving to the **legal framework** available to structure cooperation on ambulance care, the analysis in the previous Sections has shown that sufficient conditions are created to extend current cooperation on ambulance care to other areas of medical transport of patients. Looking at national law, provisions could be identified in the Netherlands and Germany facilitating cross-border cooperation on ambulance care.[433] These national laws provide **exemptions to the generally applicable legislation** to enable cross-border movements in ambulance care. At the same time, agreements such as the Anholt Treaty, 2014 Benelux Treaty, and German-Belgian Agreement **provide a framework for cooperation** enabling authorities to authorise one another to carry out certain tasks. These types of provisions have been used before to adopt the EMR Agreement and Benelux Decision through which the *rendez-vous* system is structured. Accordingly, these provisions may again be used to create agreements on cooperation on different forms of medical transport of patients.

[433] Article 17 io. 19-23 Regeling Ambulancevoorzieningen; 1(5) Rettungsgesetz NRW.

Whereas cooperation on the *rendez-vous* system was given a structural form in the EMR via the EMR Agreement, cross-border ambulance cooperation in emergency situations does not always have a structural form along the Dutch borders with Belgium and Germany. In regions where this is not the case, authorities could consider developing an agreement similar to the EMR agreement (based on the Anholt Treaty or the Benelux Decision) to structure their cooperation. The next step would then again be to look to other forms of medical transport of patients as described above (step 2).

As far as any future agreements regarding other types of medical transport are concerned, it must thereby be stressed that – although other types of medical transport of patients need their dedicated agreements – **the general structure and themes taken up in the present EMR Agreement, Benelux Decision, and Belgian-German Ambulance Agreement can be taken as a basis for such future agreements**. This is particularly the case since these agreements already provide provisions on core themes related to cross-border cooperation on medical transport of patients. In particular, this concerns the **staff deployed and their competences and qualifications, reimbursement of care, and technical requirements.**

In light of the comments made by several interviewees **questioning the current need for a full exchangeability of staff and/or mixed teams of professionals from different Member States**, priority should be given to extending cooperation on the basis of **mutual recognition**. Priority should therefore be given to letting "**intact national teams**" operate across the border and regulating that cross-border deployment in relation to the abovementioned topics.

Starting with **the staff deployed**, they should therefore be able to work on the basis of their home country qualifications, competences, and professional standards. Should stakeholders nevertheless seek to achieve greater convergence and possibly exchangeability of staff, they may indeed undertake to organise joint trainings, exchanges, and internships (as described above). These activities should then be developed **in cooperation with large employers, supervisory bodies, and competent authorities** so as to ensure that greater familiarity with the respective systems is not limited exclusively to ambulance professionals. Dedicated **language training including specific medical terminology** must thereby also be considered of added value. If opportunities arise to **align protocols** across border regions, this may also contribute to realising better exchangeability of staff in the longer term. If stakeholders are of the opinion that it should be possible to deploy ambulance professionals across a border region (irrespective of where they are originally trained), consideration should be had of the **EU procedures for service provision** through which professionals licensed in one Member State can **temporarily and occasionally** exercise their profession in another Member State. Applied to the Dutch cross-border regions with Belgium and Germany this would mean that a Dutch ambulance nurse could, for example, occasionally be deployed in a German ambulance if a shortage of employees would arise.

In relation to **reimbursement of care**, the analysis in the previous Sections showed that there is an extensive system applicable at EU-level (made up of Regulation 883/2004, Regulation 987/2009, and Directive 2011/24). More specifically, evidence could be found that the applicable EU legislation is to be interpreted more broadly as far as the reimbursement of cross-border care is concerned.[434] This

[434] Communication from the Commission: Guidelines on EU Emergency Assistance in Cross-Border Cooperation in Healthcare related to the COVID-19 crisis. C(2020) 2153 final, footnote 1.

means that emergency care in a broader sense should also be reimbursed (rather than exclusively the situation where a person needs to receive treatment in a second Member State when staying there). A best practice in this context is the **financial regulation adopted in addition to the Benelux Decision**. This provides for detailed provisions on **how care should be reimbursed in different situations.**

Finally, as far as **technical requirements** are concerned, the analysis revealed that applying the principle of mutual recognition to this area appears to work well thus far. When moving forward to extend cooperation to other areas of medical transport of patients, that principle could therefore continue to be applied. Nevertheless, as mentioned during the interviews, greater convergence of systems could be achieved if differences in the medical equipment used became less prominent. Stakeholders should therefore, in the short term, enhance **information sharing** to increase familiarity of different types of equipment used across the border. At the same time, and in the longer term, efforts could be undertaken to **find out to which extent it is possible to align/harmonise** the use of similar materials and equipment.

To conclude, it is important to refer back to the interviews for the levels at which the abovementioned activities are to take place. It may be recalled from Section 2 that several interviewees considered both a **top-down as well as bottom-up approach** the best way to proceed in cooperation. Indeed, the top administrative levels in border regions can be considered to play an important role in raising awareness at national level of the importance of cross-border cooperation on medical transport of patients, providing support when such cooperation is to be formalised through agreements, and playing a role in safeguarding the availability of funding to support cooperation. By contrast, actors in the border regions (i.a. ambulance services, training centres, employers, partnerships, authorities) play an essential role in activities concerning coordinating, networking, training, and in generally setting the parameters for successful cooperation in the cross-border medical transport of patients.

5. Conclusion

The objective of the present study has been to analyse the current state of play of cooperation on ambulance care along the Dutch borders with Belgium and Germany to identify challenges, best practices, and recommendations for the future. Five research questions were maintained to examine the topic of cross-border cooperation in medical transport of patients in-depth.

The **first research question** sought to find out what the current state of play of cross-border cooperation on ambulance and intensive care transport services in the Dutch border regions was. To answer this question, interviews with stakeholders were conducted. These showed that the general sentiment from practice was that the current cooperation in the context of the *rendez-vous* system and applied along the Dutch borders with Belgium and Germany (North Rhine-Westphalia) worked well. Interestingly, the interviews also revealed that the COVID-19 pandemic did not have severe negative effects on existing cooperation in the field of emergency ambulance care. When looking toward the future stakeholders generally agreed that, despite differences in the levels of cooperation, there is a need to intensify cooperation on the medical transport of patients in a cross-border sense. However, they indicated that such cooperation was inhibited due to the existence of obstacles related to anything ranging from systemic differences, issues concerning qualifications, reimbursement of care, and technical requirements to issues concerning liability, privacy, use of drones, and language differences. Although bottlenecks could thereby be identified, best practices were also mentioned related to existing exchange and networking activities, the coordinating role undertaken by EMRIC, and cooperation on education and training. Interviewees also expressed recommendations for the future further integrated in the solutions section (Section 4.4.5) of this report.

Under the **second research question** the different existing agreements on cross-border emergency ambulance care were examined as was the existing legal framework applicable to future cross-border cooperation in the area of the medical transport of professionals. This section showed that agreements already exist for cooperation on emergency ambulance care (i.e. the EMR Agreement, Benelux Decision, and Belgian-German Ambulance Agreement) that can be taken as examples to structure future cooperation. Despite their differences, these agreements are generally based on the mutual recognition matters such as professional standards and vehicles to achieve cooperation. In terms of possible future arrangements, agreements such as the Anholt Treaty, 2014 Benelux Treaty, and German-Belgian Agreement enable authorities to cooperate by delegating tasks to one another. Whereas these provisions were already used to establish the existing agreements on emergency ambulance cooperation, these can also be considered useful for possible future agreements.

The **third and fourth research questions** sought to examine how medical transport of patients is currently organised in the Netherlands, Belgium and Germany (North Rhine-Westphalia) and to connect the obstacles identified in the interviews to the legislation and policy applicable. Particular attention was thereby given to differences in the national systems for the medical transport of patients, professional regulation, qualifications and recognition thereof, reimbursement of care, and technical requirements. While it may be unsurprising that the systems were found to differ from one another, the differences that can be considered most difficult to overcome can be considered to exist in the area of the differences in types of medical transport of patients and differences in staff. Such differences are particularly difficult to overcome since most professions relevant to the medical transport of patients are regulated, thereby requiring recognition in the event that individual

professionals want to work across the border. Nevertheless, the Section comparing the different professions also showed that the use of the EU-level procedure for service provision may provide some relief and may facilitate the cross-border temporary and occasional employment of professionals. The Section comparing the different provisions in the Netherlands, Belgium, and Germany (North Rhine-Westphalia) on reimbursement of care furthermore considered that – despite existing differences – these could be overcome through the use of EU-level legislation, the conclusion of agreements on the reimbursement of care, and could even be approached in a pragmatic way. In a similar vein, the comparative Section on technical requirements showed that – where disparities existed – these could be overcome by sharing information on the use of equipment and materials and examining whether alignment thereof could be possible. It was furthermore perceived that – although technical requirements and materials differ per country examined – such differences may also arise within the countries examined.

Finally, **the fifth research question** sought to examine how existing obstacles to ambulance and intensive care could be resolved. In this context, Section 4.4.5 proposed a three-step approach based on the findings from the interviews and the analysis of the legislation and policy applicable at national level. The first step thereby concerned the least formal actions and included activities such as intensifying coordinating and networking activities, meeting regularly to discuss issues, create policy and adapt processes, organising joint training, exchanges, and internships, conducting a scientific evaluation of national protocols, and undertaking joint projects. The second step concerned the identification of the following area of medical transport of patients in which cooperation should be intensified. Apart from identifying the field, stakeholders should also set conditions under which cross-border deployment of other medical transport services is necessary. Finally, the third step involves formalising cooperation for the new area of medical transport of patients. Although each area of transport identified in the context of this report is different in nature, the general structure and themes taken up in existing agreements on emergency ambulance care may still be used as a basis for future agreements. This is particularly the case where they concern mutual recognition of staff deployed and their competences and qualifications, technical requirements, and provisions on reimbursement of care. Several measures were nevertheless proposed in Section 4.4.5 to allow for an intensification of cooperation on qualifications, technical requirements, and reimbursement of care where desired. Nevertheless, maintaining mutual recognition of existing standards as a baseline for future agreements could be useful also in light of views expressed by stakeholders questioning the current need for fully integrated teams or mixed teams from different Member States. Basing cooperation in other types of medical transport of patients on mutual recognition could thereby result in achieving maximum results without having to navigate persistent systemic differences. Mutual recognition thereby serves as a means to bridge existing systems rather than mitigate them.

Annex I – Overview of Interviews Conducted

Interview	Party	Date
Interview 1	Partnership	24 February 2021
Interview 2	Local Authority	25 February 2021
Interview 3	Local Ambulance Service	10 May 2021
Interview 4	Local Ambulance Service	10 May 2021
Interview 5	Local Ambulance Service	17 May 2021
Interview 6	National Ministry	17 May 2021
Interview 7	Regional Ambulance Service	26 May 2021
Interview 8	Regional Authority	26 May 2021
Interview 9	Local Hospital	9 June 2021

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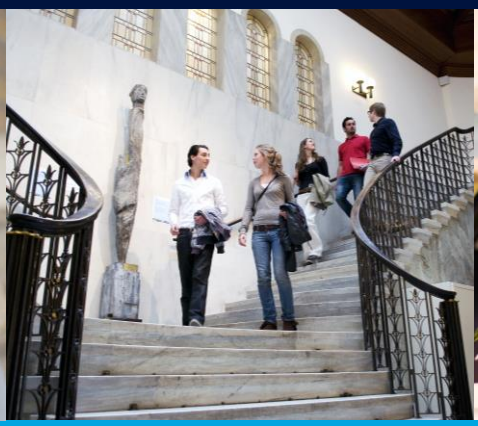

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