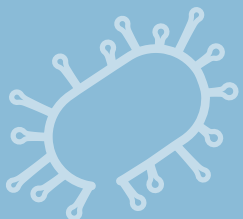


ewimed report

Data collection 2024

25





Foreword

This is the fourth edition of the international ewimed report. Focusing on the treatment of pleural effusion and ascites, it provides scientific data, doctors' opinions and real-life case studies from practice in relation to the treatment option of an indwelling pleural/peritoneal catheter (IPC) which is subcutaneously tunnelled and helps to bring this treatment option to a wider audience across Europe.

To improve readability, the indwelling pleural/peritoneal catheter (subcutaneous tunnelled) will be abbreviated as IPC.

The topics covered in the ewimed report 2025 include the analysed data from the 2024 ewimed patient survey, which has now been collected by ewimed across Germany for 15 years, and the annual overview and summary of relevant literature from 2024 picked out by the ewimed team on the subject of pleural effusion and ascites. The report also provides an insight into the problem of infections in patients with non-malignant ascites with an overview of a new study on silver-coated IPCs and an accompanying interview with the initiator of the study, Prof. Dr. med. Benjamin Maasoumy from Hannover Medical School (MHH). This year's report also includes an international overview of the current state of sustainability in healthcare. Following this, an expert interview provides further insights into the topic. The interview features PD Dr. med. Stefan Welter, Head of the Thoracic Surgery Department at DGD Lungenklinik Hemer, a specialist lung hospital in Germany. He also leads the 'Sustainability in Thoracic Surgery' research group of the German Society for Thoracic Surgery (DGT). Joining him is Martina Moll, Senior Manager of Sustainability at the German healthcare company Sana Kliniken AG.

In the final section of the report, we share two case studies involving patients from Austria, which demonstrate that IPCs can be used both after a long course of treatment and shortly after diagnosis.

ewimed GmbH

ewimed GmbH is an expanding medical technology company based in the Medical Valley Hechingen that has specialised in the drainage of pleural effusion and ascites for over 30 years. As the developer, manufacturer and distributor of catheters and drainage accessories, ewimed offers a wide range of products for symptom relief in recurrent malignant and non-malignant pleural effusion and ascites. The products are designed for both clinical use and home care. ewimed offers a number of services related to its products and offers care for all patients under its ewimed care concept, from the implantation of the catheter to patient self-drainage at home and beyond. With subsidiaries and sales and service units in Germany, Sweden, Switzerland, Austria, Hungary, Denmark, Norway, Belgium, the Netherlands, Luxembourg and Romania, ewimed is one of the leading providers of drainage systems in Europe and is continuously working on the development of innovations in this area. Since the company was established in 1991, the patient has always been the focus of ewimed's activities. The aim is to improve and maintain the quality of life for patients through the carefully developed patient-centred care concept.



Lotta and Egon Wiest, managing directors
and founders of ewimed GmbH



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We greatly value your opinion!
**Please take a few minutes to answer
our ewimed Report survey.**



1. Insights into the ewimed patient survey

The ewimed patient survey has been filled out by specially trained ewimed employees during the home care training for 15 years now. The analysis of this survey provides us with important insights for the further development of the treatment of pleural effusion and ascites based on first-hand patient experience and knowledge of the market needs. The survey also gives us the ability to address new topics over a specific period of time. ewimed offers medical professionals the opportunity to raise clinical questions that fit into the context of training for home drainage. You can find our analysis of the data from 2024 below.

It should be noted that the data analysis is based exclusively on data collected by ewimed in Germany and is not representative of the overall European market.

1.1 Average patient age

The average patient age for pleural effusion rose slightly in 2024 to 72.21 years (2023: 71.76 years). In contrast, the average patient age for ascites fell slightly to 66.25 years (2023: 66.88 years).

1.2 Gender distribution

There is a balanced gender distribution: for pleural effusion, the proportion of male patients is 54% (2023: 52%) and for ascites, the proportion of male patients is 53% (2023: 52%). Correspondingly, the proportion of female patients with pleural effusion is 46% (2023: 48%) and the proportion of female patients with ascites is 47% (2023: 48%).

Pleural effusion



● male 54%
● female 46%

Ascites



● male 53%
● female 47%

Fig. 1: Average patient age and gender distribution

1.3 Causes of illness and underlying diseases

In the next section of the survey, the causes of illness are broken down into malignant and non-malignant causes. The underlying disease that led to the pleural effusion or ascites is also analysed.

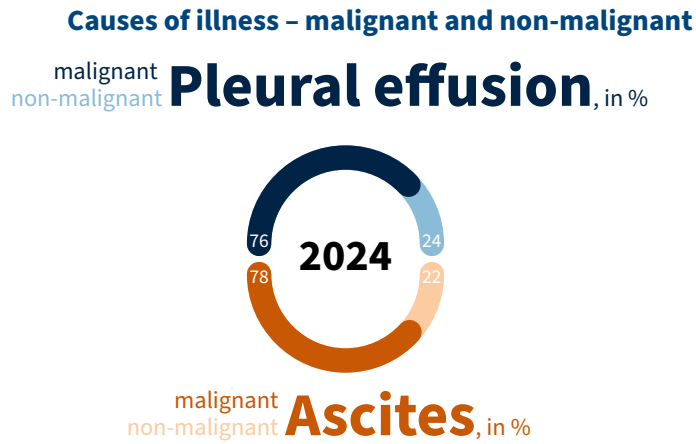


Fig. 2: Causes of illness – malignant and non-malignant

The proportion of malignant causes of pleural effusions remained constant compared to the previous year at 76%, while the proportion of non-malignant causes was 24%.

There were only minor changes with ascites as well. The proportion of malignant causes in 2024 was 78% (2023: 79%), while the proportion of non-malignant causes increased to 22% (2023: 21%).

Underlying diseases 2024

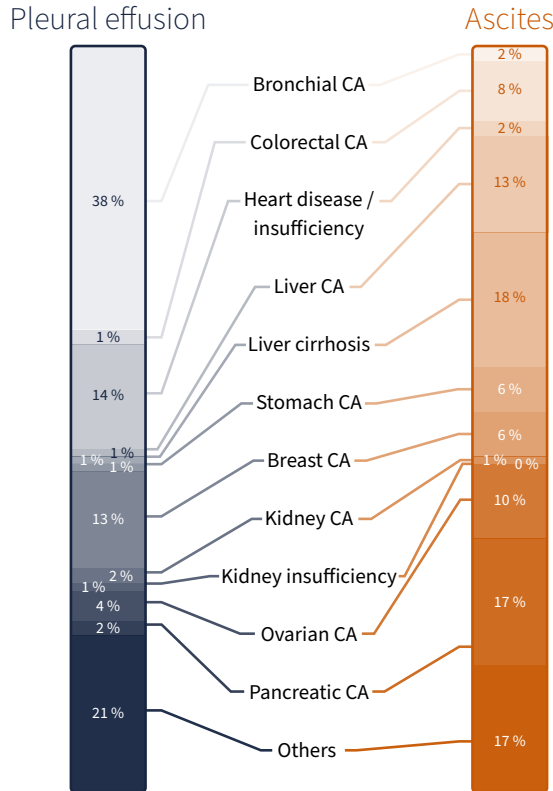


Fig. 3: Underlying diseases



This illustration shows the underlying diseases preceding pleural effusion or ascites and causing these. Regarding pleural effusion, lung cancer is the most frequent cause at 38% (2023: 39%). Heart disease is the second highest cause at 14% (2023: 13%), while breast cancer accounted for 13% of cases (2023: 12%).

With regard to ascites, liver cirrhosis is the most frequent cause at 18% (2023: 16%), closely followed by pancreatic cancer at 17% (2023: 15%). In 2024, liver cancer accounted for 13% in 2024 (2023: 15%).

1.4 Proposing versus implanting medical specialities

The survey also records which medical speciality proposes treatment with an IPC or carries out the implantation.

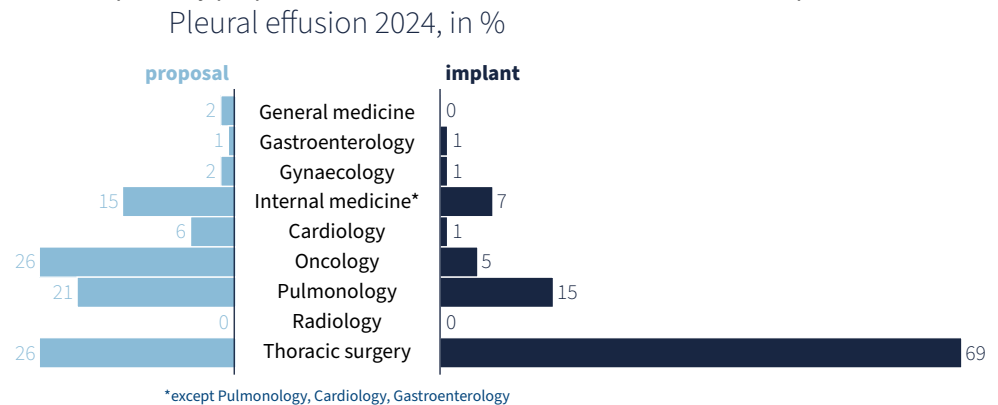


Fig. 4: Proposing vs. implanting medical specialty, pleural effusion

In the area of pleural effusion, the survey results show that many different disciplines suggested the use of an IPC as a option in the past year. Implantation was most frequently proposed by thoracic surgery at 26% (2023: 27%) and oncology at 26% (2023: 28%), followed by pulmonology at 21% (2023: 20%). In the area of pleural effusion, 69% of implantations (2023: 70%) were carried out by thoracic surgery, with 15% (2023: 14%) of implantations carried out by pulmonology and 5% (2023: 6%) by oncology.

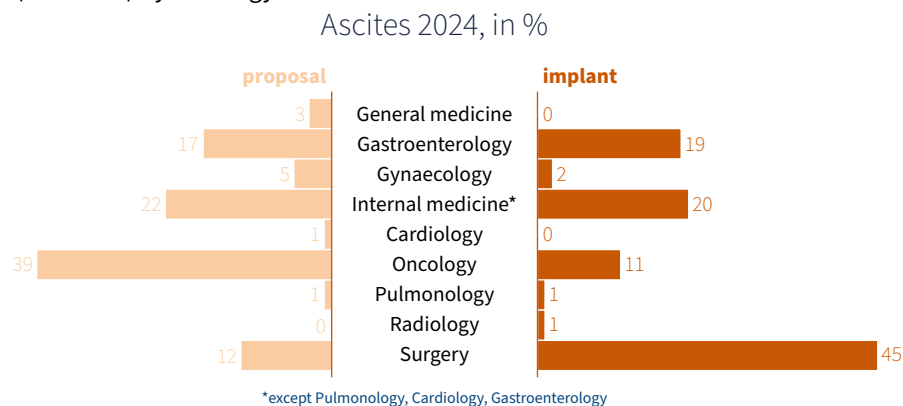


Fig. 5: Proposing vs. implanting medical specialty, ascites

In the area of ascites, the leading disciplines last year for the indication of implantation of an IPC were oncology at 39% (2023: 41%), internal medicine at 22% (2023: 21%) and gastroenterology at 17% (2023: 17%). Among patients with ascites, 45% (2023: 45%) of implantations were carried out by surgery, followed by internal medicine at 20% (2023: 19%). Oncology carried out 11% of implantations (2023: 13%).



1.5 Puncture before IPC implantation

This section shows the number of punctures performed prior to the implantation of an IPC for pleural effusion and ascites.

Puncture before IPC Implantation

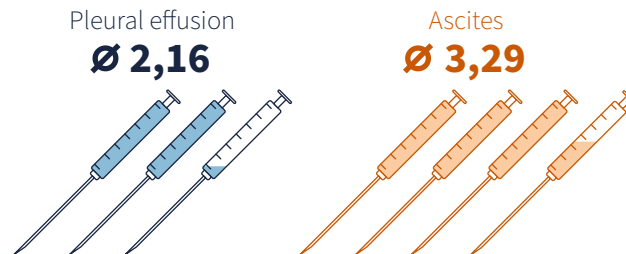


Fig. 6: Puncture before IPC Implantation

For pleural effusion, the number of punctures essentially remained unchanged at 2.16 (2023: 2.12).

For ascites, the average number of punctures fell to 3.29 (2023: 3.42). This might indicate that IPCs are being used at an earlier stage.

1.6 Pleurodesis attempt (only pleural effusion)

The last part of the ewimed patient survey examines whether medical or surgical (VATS/talc) pleurodesis was used as a treatment option for pleural effusion before the implantation of an IPC. As last year, this percentage remained unchanged at 9%. This specifically does not include spontaneous pleurodesis that can be promoted and achieved by regular drainage via an IPC, as proven by the study by Muruganandan et al. from 2018¹, among others.

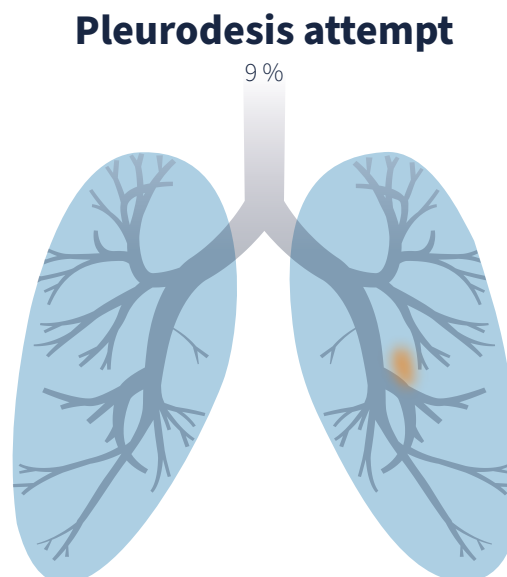


Fig. 7: Pleurodesis attempt



2. Relevant literature 2024

ewimed continuously carries out literature searches and analysis of new publications in the field of treatment options for pleural effusion and ascites and then presents literature it considers relevant from the previous year in this section of the report. One recent study on pleural effusion compares the use of resources and the costs of treating a case of malignant pleural effusion using an IPC and chemical pleurodesis. We do not consider there to have been any relevant new literature published on ascites in 2024.

Resource Use and Costs of Indwelling Pleural Catheters vs Pleurodesis for Malignant Pleural Effusions: A Population-based Study (Kwok et al., 2024)²

Malignant pleural effusions represent a significant burden on the healthcare system, as they are associated with high costs and significant resource use.

This retrospective, population-based cohort study, investigated the economic and resource-related aspects of two common treatment approaches for malignant pleural effusions: IPC insertion and chemical pleurodesis. The data came from the provincial health administration of Ontario, Canada.

The period covered by the study was 1 January 2015 to 31 December 2019. The individuals included in the study were patients who underwent either IPC insertion or chemical pleurodesis. Of the 5,752 patients included in the study, 4,432 (77%) underwent IPC insertion and 1,320 (23%) received a pleurodesis procedure. Propensity score matching was used to balance out differences in the baseline characteristics of the patient groups.

In this retrospective study, patients were followed from the procedure date until 12 months after the procedure, death or loss of statutory medical insurance.

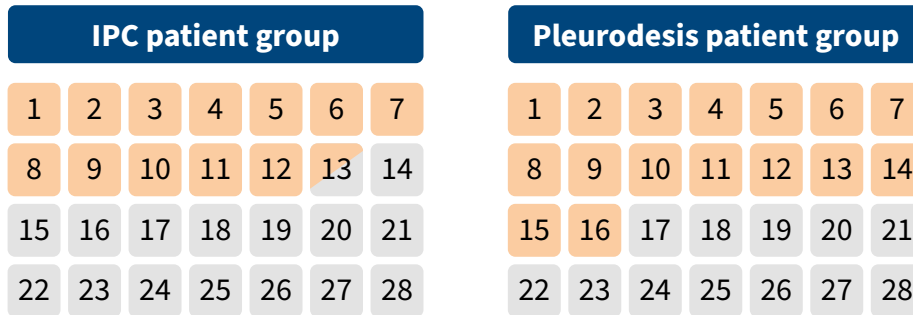
The primary result of the study was the length of hospital stay within the first 12 months after the procedure. Secondary results included patient condition on discharge, the average time until readmission or an emergency department visit, the causes of specific hospital stays, home care visits and a detailed analysis of the overall healthcare costs for the healthcare system. These healthcare costs included inpatient and outpatient treatment, medical consultations, prescription medicines and other nursing services.

The average length of hospital stay within the first 12 months was shorter for the IPC group than the pleurodesis group at 12.4 days versus 16 days. Although IPC patients require more nursing care through outpatient nursing services (41 hours versus 21.1 hours), the costs per patient in the IPC group (\$40,179) are much lower than the pleurodesis group (\$46,640). The cost savings mainly result from the reduction in hospital stays and the relocation of nursing to the home.



Length of hospital stay

within the first twelve months



Costs per patient



Fig. 8: Hospital stay duration & costs: IPC group vs. pleurodesis group

The results display that IPC insertions are a cost-effective, outpatient-oriented treatment option for malignant pleural effusions. The evidence show that this treatment option can reduce inpatient resource use. In their abstract, the authors emphasise the importance of outpatient care as the key to improving patient quality of life and optimising health outcomes.

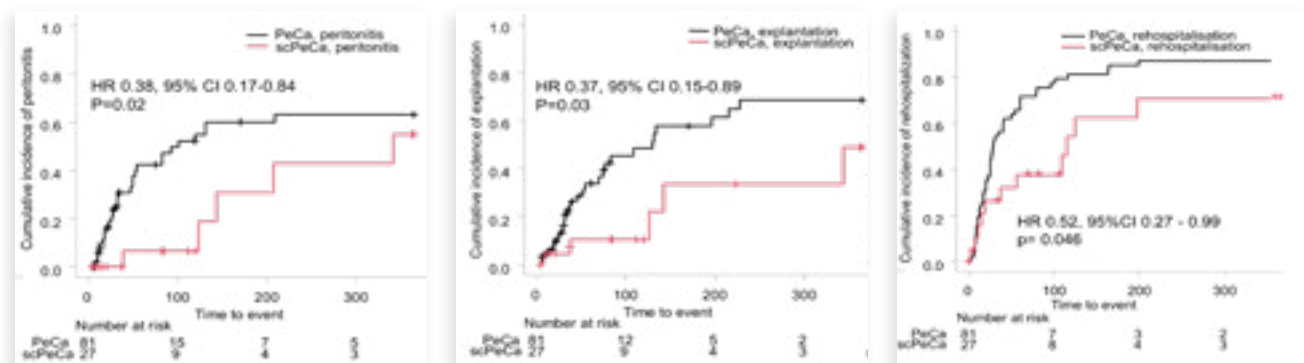


3. Infections in non-malignant ascites

Refractory ascites is a frequent complication of liver cirrhosis. Common treatment options are large-volume paracentesis (LVP), a transjugular intrahepatic portosystemic shunt (TIPS) or implantation of an IPC.

The implantation of an IPC is a very safe procedure. In terms of post-operative complications, studies show that the infection rates following IPC implantation are 5% for patients with malignant or non-malignant pleural effusion (Fysh et al. Chest 20233, Monali et al. Chest 2017⁴). The published post-operative infection rates for patients with ascites are also reported as 5% for patients with malignant ascites (Narayanan et al. Journal of Palliative Medicine 20145), whereas the post-operative infection rates for patients with non-malignant ascites due to immune system disorders are significantly higher and are frequently the cause of catheter explantation (Tergast et.al. Alimentary Pharmacology & Therapeutics 2022⁶).

The research group led by Prof. Dr. med. Benjamin Maasoumy from Hannover Medical School (MHH) investigated whether silver-containing IPCs led to fewer infections in patients with non-malignant ascites compared to conventional IPCs. The publication ‘Silver-coating of tunnelled peritoneal drainage system is associated with a lower incidence of spontaneous bacterial peritonitis and device explantation’ demonstrated that the incidences of spontaneous bacterial peritonitis, the incidences of infection-related device explanations and the rehospitalisation rate for patients with silver-containing IPCs were significantly lower than those for patients with conventional IPCs (Schütte et al. 2024⁷).



Significantly fewer episodes of spontaneous bacterial peritonitis (SBP) within one year following implantation.

Significantly fewer explantations of the catheter within one year following implantation.

Significantly fewer hospital readmissions within one year following implantation.

Fig. 9: Key findings from the publication by Schütte et al.⁷

We were delighted to be able to interview Professor Benjamin Maasoumy about this study and share it with you here.



Prof. Dr. med. Benjamin Maasoumy is a senior attending physician and research group leader in the Department of Gastroenterology, Hepatology, Infectious diseases and Endocrinology at Hannover Medical School (MHH). After completing his medical studies in Hannover, Manchester and Kapstadt, he specialised in internal medicine and gastroenterology.

His focus of attention is the treatment of liver diseases, especially viral hepatitis and complications of liver cirrhosis. He has headed up a research group, investigating these areas since 2017 and was appointed 'extraordinary Professor' in 2022.

Prof. Dr. med. Maasoumy's clinical responsibilities encompass the liver cirrhosis and portal hypertension units, and he is the deputy head of the liver transplant unit.



Fig. 10: Prof. Dr. med. Benjamin Maasoumy

How often do you encounter patients with refractory ascites in liver cirrhosis and what challenges are you currently facing in the care of this patient group?

Several times a day! Our hospital specialises in the treatment of refractory ascites. The challenges here are many and varied. Patients may subjectively experience symptoms such as a feeling of abdominal pressure, abdominal wall hernias and bloating/loss of appetite. For us as the practitioners, weighing up the efficacy and side effects of potential treatment options, particularly in the context of other complications of liver cirrhosis, such as kidney failure or encephalopathy, is not always an easy task.

In what situations do you consider the use of an IPC to be particularly logical or necessary? Are there specific criteria that you consider when selecting patients?

We would always consider an IPC as a possible treatment option if neither treatment with diuretics nor a transjugular intrahepatic portosystemic shunt are possible or sufficiently effective. The only real alternative in this case at present is regular abdominal paracentesis. Often this is then needed every seven to fourteen days. In cases where the required frequency is this high, it generally starts to become a chore for the patients, particularly as they need to travel to the hospital every time. Very few hospitals offer outpatient paracentesis.

Infections are a common problem with catheter systems. How do you rate the use of silver particles in reducing the infection rate? Have you already gained experience of using these technologies?

Patients with liver cirrhosis and refractory ascites have a very high risk of infection. This is due to a complex disorder of the immune system, which is encapsulated in the term cirrhosis-associated immune dysfunction. This disorder means that these patients frequently develop infections of the ascitic fluid – bacterial peritonitis – even without having catheters implanted. While it is true that implanted catheters do provide an additional entry point, our initial experience suggests that the additional risk from the catheter implantation is significantly lower as a result of the antibacterial silver coating. We have now also valued our experience in a structured study and have already submitted it for publication. To date, the rate of infections and explantations has been significantly lower than with the conventional system.

How high do you judge the risk that using an IPC in patients with refractory ascites in liver cirrhosis, who may be potential transplant candidates, could lead to complications or exclusion criteria? Are there any special considerations or precautions that you would observe in cases such as these?

In our hospital, being on the transplant list is not viewed as a contraindication for implantation. Regular abdominal paracentesis also has various disadvantages. However, antibiotic prophylaxis is administered to further reduce the infection risk.



**How do your patients react to treatment with an IPC?
Do you see benefits here in terms of their quality of life
and self-management?**

Our patients generally react very positively. Patients report that carrying out regular drainage means they experience less bloating and are more able to manage day-to-day life. The home-based system also gives them a greater degree of independence. This may also be accompanied by an improvement in their eating capacity and their general quality of life. However, we have not yet investigated this in a structured study.

**How does your hospital organise follow-up care plans
for patients after being implanted with an IPC?**

Patients are generally given antibiotic prophylaxis. But this also depends on the individual risk profile. We then arrange outpatient follow-up appointments in our hospital at one, three and six months after the procedure. At these appointments, we once again make sure that the patient is managing their care in their home environment without any issues. We also check whether any complications have developed and whether the medication needs adjusting.

**What other technological improvements would you
like to see in the area of catheter systems to make the
treatment of refractory ascites in liver cirrhosis safer
and more efficient?**

I am satisfied with the current catheter systems available for drainage. There does not appear to be any need for improvement here from a technical perspective. It is, of course, a shame that ascites also results in the loss of protein and electrolytes. If a system existed that enabled some of these to be recovered, that would definitely be an advantage.

**Many thanks to Prof. Dr. med. Maasoumy for this
interview and for sharing his experience with silver-
coated IPCs.**



4. Sustainability in healthcare

Sustainability is becoming an increasing priority in healthcare. Against a backdrop of limited resources, increasing environmental pollution and a growing awareness of social responsibility, healthcare facilities are faced with the challenge of balancing economic, ecological and social aspects. This section provides an overview of the current status of sustainability measures in healthcare in different European countries. Two experts from the healthcare sector also give us their valuable insights and views on current developments and the future potential for a sustainable healthcare system.

4.1 Country overview

Germany

German hospitals are increasingly focusing on energy savings, renewable energies and, in some cases, sustainable procurement. The goal of achieving climate neutrality by 2045 and legal requirements such as the Corporate Sustainability Reporting Directive are the driving forces behind this trend. While hospitals have successfully reduced emissions in their buildings, creating a sustainable supply chain remains a challenge. The high investment costs involved and the absence of any relevant standards make it hard to implement sustainability within the supply chain. The main examples of progress made to date are energy-efficient buildings, improved procurement guidelines and, in individual cases, the appointment of sustainability officers.

Austria

In Austria, sustainability is a key priority in cooperation with hospitals. The focus here is on documenting the supply chain and optimising packaging. The goal is to make the healthcare system climate neutral by 2040 in accordance with the Austrian 'Strategy for a Climate-Neutral Healthcare System'. Large hospitals are appointing climate managers or waste officers, who then work closely with procurement and marketing departments. The biggest challenges include price increases for sustainable products and switching over to green energy. While there are visible signs of progress, such as the use of regional products and optimised packaging solutions, many of the regulations on this subject are still unclear.

Switzerland

In Switzerland, sustainability is only a priority if the costs stay within reasonable limits. Although the Swiss healthcare system is pursuing its 'Strategy 2030', there is a lack of clear, measurable goals in many areas. Food waste reduction is a central aspect and green requirements are increasingly being taken into consideration in calls for tender. Large hospitals often have their own sustainability officers, who are responsible for coordinating strategies. One of the biggest challenges is that financial considerations are often given higher priority than social and ecological aspects. Despite these hurdles, there are examples of progress, such as more sustainable packaging and more energy-efficient products.



Sweden

Sweden is taking a leading role in many areas when it comes to sustainability in hospitals – with extremely high requirements for suppliers and products. Many hospitals have already achieved the climate goals they have set or are well on their way to achieving them. Regional sustainability experts are responsible for coordinating strategies and larger hospitals are employing specialist professionals. The challenges include reducing waste and promoting the circular economy, with a particular focus on PVC-free and recyclable products. However, the quality of care must always be guaranteed here. The long-term implementation of provisions could be made easier by standardising requirements.

Denmark

Denmark has set itself ambitious targets, such as halving CO₂ emissions by 2035. Danish hospitals are increasingly focusing on waste reduction, in particular through replacing single-use products with reusable ones. Large hospitals are employing sustainability managers, who work together with waste officers to systematically implement strategies. Rising prices and the limited selection of sustainable products on the market are some of the biggest challenges. However, progress has still been made, with key examples being the use of biodegradable packaging and reusable solutions for surgical instruments. Despite the clear targets that have been set, the long-term implementation of regulations remains a difficult task.

Norway

Sustainability is a high priority in Norwegian hospitals, particularly when it comes to reducing emissions and waste. The aim is to reduce CO₂ emissions by 40% by 2030. Sustainability groups have been set up in hospitals, hospital networks and regions, which are supported by sustainability organisations such as 'grøn praksis' [Green Practice]. The challenges include the high costs, involved in making necessary switches and the difficulty of reconciling sustainability objectives with the required standard of care. Examples of progress made include the reduction of plastic waste and recyclable medical products. However, there remains uncertainty over the implementation of future regulations.

BeNeLux

In the BeNeLux region, sustainability has become an increasing priority, particularly around waste reduction. Individual hospitals are focusing on measures to save energy and prevent waste and are pushing for products and services to be designed in a more environmentally, friendly way. In many cases, there are departments for sustainability, which are responsible for developing strategies for more environmentally conscious care. The biggest challenges lie in reducing energy consumption and the limited range of sustainable products available. One encouraging development is the innovative solutions from companies such as Philips and Siemens Healthineers, which are supplying energy-efficient medical devices.

Summary

The countries investigated are taking different approaches to sustainability in their hospitals, but their main focus is often on reducing waste and emissions. Austria, Denmark and Norway have set themselves ambitious targets, while in the BeNeLux region and Switzerland financial considerations are often the top priority. Sweden appears to be taking a pioneering role, given that it has set itself high standards and has implemented comprehensive strategies. Progress is recognisable in all countries, particularly through innovative, sustainable medical products and packaging solutions. However, the biggest challenges remain high costs, balancing different provisions and the limited availability of sustainable products on the market.



4.2 Sustainability in practice – a conversation with the experts

Martina Moll, Senior Manager of Sustainability at the German healthcare company Sana Kliniken AG, and PD Dr. med. Stefan Welter, Head of the Thoracic Surgery Department at DGD Lungenklinik Hemer specialist lung hospital in Germany and head of the ‘Sustainability in thoracic surgery’ research group of the German Society for Thoracic Surgery (DGT), share their experiences and views with us.



Fig. 11: PD Dr. med. Stefan Welter



Fig. 12: Ms. Martina Moll

Current situation in hospitals

Ms. Moll and PD Dr. med. Welter explain that many German hospitals have already taken the first steps towards reducing their environmental footprint. Significant progress has been made around energy efficiency in particular: key measures here include the switch to LED lighting, optimisation of ventilation and heating systems and increased use of renewable energies. In addition to technical improvements, some hospitals are also focusing on structural changes – introducing sustainability working groups, for example, which plan and implement projects in a strategic manner.

Sustainability is now a permanent fixture in hospitals, according to Martina Moll. She states that there is a strong focus on reducing greenhouse gas emissions, particularly through energy savings and more sustainable supply chains. PD. Dr. med. Welter also emphasises that: “Modern construction methods and renewable energies play a crucial role in our strategy.”

Legal requirements

Our interview guests report that legal requirements such as the target of achieving climate neutrality by 2045 or compulsory sustainability reporting in accordance with the Corporate Sustainability Reporting Directive (CSRD) reporting obligation represent a considerable challenge for many hospitals. While it may be feasible to reduce emissions within a hospital’s own buildings and facilities (Scope 1 and 2), factoring the entire length of the supply chain into this (Scope 3) proves much more complex.

Ms. Moll is keen to stress: “We take the legal requirements very seriously and are continuously improving our processes in order to meet these requirements.” Collecting reliable data is a challenge, as hospitals often do not have access to accurate supplier information. This makes it considerably more difficult to calculate emissions precisely and comply with requirements.

Working together with companies

“A central factor in sustainability in the hospital sector is working together with suppliers,” explains Ms. Moll. While some hospitals are already making demands of their suppliers, such as carbon footprints or the use of environmentally friendly materials, she reports that many hospitals are still at the stage of developing standards. This is particularly challenging for smaller suppliers as they often don’t have the necessary resources to provide comprehensive evidence of sustainability.



Ms. Moll explains: “It is essential that we work together with our suppliers to successfully implement sustainable solutions. We believe in the importance of long-term partnerships that are based on sustainability principles.” In future, it will be crucial that all partners work together to establish common standards for sustainable products and services to ensure transparency and comparability. PD Dr. med. Welter adds: “We can see great potential in working closely with our suppliers to introduce innovative, environmentally friendly products to the market.” He believes that increased cooperation within the hospital sector could also make it easier to take advantage of economies of scale and implement sustainable practices more efficiently.

Opportunities and challenges

Ms. Moll and PD Dr. med. Welter both agree that introducing sustainability measures will bring significant advantages for companies in the long term. But first, there are several obstacles to overcome. If hospitals manage to improve their energy efficiency, this could reduce their costs in the long term and boost their reputation. However, at the same time, achieving these improvements requires substantial initial investments and extensive structural changes, which cannot be implemented straight away.

One of the biggest hurdles remains integrating sustainability requirements into existing processes, particularly in procurement and administration. Our two experts believe that clear legal requirements and support from political institutions are needed to ease the transition for hospitals. PD Dr. med. Welter puts it plainly: “Sustainability not only offers environmental benefits but can also prove financially advantageous in the long term.” In addition, he states that new technologies and data-driven approaches need to be developed further to meet the growing requirements.

Conclusion: More intensive cooperation is needed

Our experts report that while the efforts made by German hospitals in relation to sustainability are translating into progress, numerous challenges still remain, particularly in the areas of supply chains and data collection. Although, some hospitals are making great strides here, many others have yet to develop and implement clear strategies. Our experts believe, that more intensive cooperation within the healthcare sector and with suppliers could help to achieve the climate goals more efficiently and implement sustainable innovations more quickly.



5. Patient case studies

For all patients with a pleural effusion or ascites, the development of their disease up to the time they are diagnosed will be different and will be influenced by a range of factors – from the length of time for diagnosis and how they personally cope with their disease, to the potential insertion of an IPC. In this section, we present two different patient case studies. While the first case describes a protracted course of treatment, in which the patient underwent various treatment approaches, the second case involves a patient being suddenly faced with an unexpected and rather shocking diagnosis. Both their stories successfully highlight the different challenges experienced by patients with these conditions, and they provide valuable insights into how an IPC can help to improve an individual's quality of life in different situations.

5.1 Case study 1

Patient from Austria with an IPC system for recurrent pleural effusion following a long course of treatment

Patient situation

Ms. Anita A., 56, lives with her two children in a small municipality in the Vorarlberg Rhine Valley. She was diagnosed with breast cancer in 2021 and was given an IPC in December 2024. By sharing her story, she hopes to help people in a similar situation to make their decision.



Fig. 13: Ms. Anita A.

Diagnosis and treatment process

She received a breast cancer diagnosis for the first time in November 2021. She then underwent 16 sessions of chemotherapy, finishing in May 2022. Following a breast resection and the insertion of a breast implant in June 2022, she underwent 25 sessions of radiotherapy from July to August 2022. Unfortunately, the radiation damaged the implant, resulting in the need for a breast reconstruction in May 2023. A pleurocentesis procedure was carried out in the breast outpatient unit of State Hospital Feldkirch (LKH Feldkirch) on 17 October 2024, which led to cancer cells being found in the punctate. Weekly pleurocentesis sessions were then required, where more than a litre of fluid was drained on a regular basis.

IPC implantation

The option of inserting an IPC was then discussed with the patient in the oncology department. The procedure was carried out on the palliative care ward at hospital 'Hohenems' a short time later, on 16 December 2024. The total length of the hospital stay was just two days.

The procedure itself was very quick and was completed without any complications, although the patient did experience a stabbing pain at the insertion site during certain movements – most likely due to irritation of an intercostal nerve. However, the pain was quickly alleviated through pain management.

On 27 December 2024, the patient also underwent paracentesis on the left side, which resulted in 1,600 ml of fluid being drained.



Due to the volume of effusion, a second catheter was considered. However, as the patient was starting treatment with ribociclib, an innovative cancer drug, the decision was made to hold off initially, as it was expected that the volume of effusion would decrease.

Living with an IPC

Afterwards, the patient experienced a noticeable improvement. On 31 December 2024, she received training from a member of the ewimed training team alongside staff from the home nursing care service on how to drain the pleural effusion herself at home.

According to the patient, the IPC considerably improved her quality of life. She rarely feels ill, her condition has improved, and she no longer experiences shortness of breath. She is also able to carry out day-to-day tasks in her home again.

Conclusion: A clear recommendation

Despite the long and difficult course of her illness, Ms. Anita A. feels that an IPC system is an extremely sensible option. She would thoroughly recommend the procedure to other patients as she has much more independence and it makes her day-to-day life much easier, resulting in a significant improvement in her quality of life.

5.2 Case study 2

Patient from Austria with an IPC system for recurrent pleural effusion following an unexpected serious diagnosis

Patient situation

Up until recently, Mrs. Elisabeth E., 65 years old, a retired social education worker from Austria, was still very active, with hobbies including Nordic walking, hiking and even skiing. Unfortunately, she was found to have multiple tumours in her abdomen, and she had an IPC implanted shortly after her diagnosis.



Fig. 14: Mrs. Elisabeth E. with her husband

Diagnosis and treatment process

Elisabeth E. was originally admitted to her local hospital in December 2024 with a hernia. Given that she also had difficulty breathing, the emergency department investigated further and found a pleural effusion. Two litres of fluid were drained during the first puncture, and as much as four litres a few days later. In the course of the diagnostic process, tumour cells were found in the effusion. The cause was adenocarcinoma.

IPC implantation

To be able to drain a new collection of fluid as early as possible, the patient was initially given a temporary large-lumen catheter for a period of two weeks, before being implanted with an IPC in early January 2025. The procedure was carried out in the pulmonology department under sedation as an outpatient treatment. Apart from a brief sensation of pressure, the procedure was not painful for the patient.



She initially experienced slight redness around the exit point following the insertion of the IPC. Despite this redness, which was treated in the hospital, the process of draining the fluid went smoothly, apart from a brief pulling sensation that she experienced towards the end of the drainage.

She started chemotherapy just a few days later.

Living with an IPC

On the same day that she was discharged from hospital, a member of the ewimed training team visited the patient at home to ensure that she could carry out the drainage herself. The training on how to manage the IPC went very smoothly. “Everything was explained very clearly, and we are not having any difficulty carrying out the drainage ourselves,” she reports.

The patient was able to manage the IPC easily from the very beginning. If she positions cushions carefully, she doesn’t even notice the IPC when lying down. Her husband or another family member help her with this. Drainage is carried out on a daily basis using a gravity reservoir, which generally collects an average of 500–600 ml of fluid each evening. The patient has seen a significant improvement after just a few weeks: the quantity of fluid being collected is decreasing all the time, with the patient now draining around 300–400 ml every three to four days.

Summary: More independence and a better quality of life

Despite the new challenging situation in which she finds herself, opting for the IPC has made things much easier for Mrs. Elisabeth E.:

“It gives me peace of mind to know that I can choose when to drain the fluid – especially if I’m experiencing shortness of breath.”

– Elisabeth E. –

She would highly recommend the treatment option of the IPC to others because without the catheter she would struggle to breathe after taking just a few steps.

Outlook

For the next ewimed report in 2026, we are extending our gaze beyond Germany’s borders and will be including patient surveys from Austria in the analysis for the first time. This will help us gain a broader insight into treatment of pleural effusion and ascites with IPCs in German-speaking countries.

We are also inviting specialists from the healthcare sector to get involved in helping to design the content of the ewimed report. We would love doctors and other healthcare professionals to send us their suggestions for topics that we should cover and to add their expertise to the conversation. If we join forces, we can discover valuable insights and help to spread the word about IPCs as a treatment option for pleural effusion and ascites.



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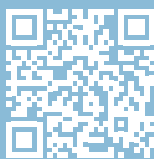
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