

*Patients in
2011*

233,156

WE USE OUR
MOTIVATION IN A
TARGETED FASHION.
TO HELP OUR
PATIENTS WORLDWIDE.
EVERY DAY.

*Motivation at
Fresenius Medical Care*



MOTIVATION IS ONE OF THE ANSWERS TO THE QUESTION WHAT INSPIRES THE TEAM THAT MAKES THIS COMPANY SO SUCCESSFUL.

The more worthwhile our actions, the greater our motivation. Fresenius Medical Care's products and services serve a particularly worthwhile purpose. What could be more worthwhile than helping people.

Motivation has many faces – at Fresenius Medical Care, there are exactly 79,159 of them. All our employees identify with the Company's fundamental purpose. They all pursue a goal, a *raison d'être*, an ideal that they seek to achieve. Come and find out what drives us and the personal ideals that motivate our employees to achieve outstanding performances every day.

Magazine 2011
MOTIVATION



Interview
**FROM BUNDLED REIMBURSEMENT
TO INTEGRATED CARE?**

IMPRINT

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ONLINE MAGAZINE 2011

www.fmc-ag.com



Spotlight

DELIVERED RIGHT ON TARGET



Interview

WE HELP YOU ON THE WAY TO YOUR DREAM VACATION!

REVIEW 2011



2011 WAS BOTH A
SUCCESSFUL AND AMBITIOUS
YEAR FOR FRESENIUS
MEDICAL CARE. WE FORGED
NEW PARTNERSHIPS
FOR THE BENEFIT OF OUR
PATIENTS, FURTHER
ADVANCED OUR BUSINESS
WITH NEW AND
IMPROVED PRODUCTS AND
SERVICES, AND SET THE
COURSE FOR OUR
CONTINUED SUCCESS.



1 — Germany

NEW HIGH-BAY WAREHOUSE IN ST. WENDEL

Construction work begins at the end of February on a central high-bay warehouse for Fresenius Medical Care at its St. Wendel production site. On approx. 4,900 square meters of space, the warehouse will accommodate 30,000 pallets with dialysis products and the raw materials required for their manufacture. It replaces several smaller warehouses on the site and elsewhere. In this way, Fresenius Medical Care is concentrating the storage of finished products and raw materials in the immediate vicinity of its production facilities. Completion is planned for the fall of 2012.

2 — Italy

“GREEN” DIALYSIS CLINIC OPENED

In October, Fresenius Medical Care opens an especially eco-friendly dialysis clinic in the Italian town of Roccadaspide, about 300 kilometers south of Rome in the province of Salerno. The new building combines two nearby Fresenius Medical Care dialysis clinics under one roof and consumes only half as much water and about a quarter less electricity than the previous clinics. Three doctors and seven nurses treat around 40 patients at the new site. During the summer months, it offers around 1,600 additional treatments for patients on vacation. You can find further information on “The future of dialysis is green” — starting on page 32.

3 — Japan

DISASTER RELIEF PROVIDED

Following the earthquake and tsunami in Japan, Fresenius Medical Care resumes patient care in the shortest possible time. This is thanks to the commitment of all our employees in the Asia-Pacific region and the hard work of the disaster relief team. During the aftershocks, employees are able to work from home so they can be with their families. Along with other manufacturers, Fresenius Medical Care takes part in the appeal organized by IKIKO (the professional association of the Japanese medical products industry) and provides 100,000 dialyzers in the region. You can find further information in the corporate report in the chapter “Responsibility” — starting on page 98.

4 — Malaysia

COMMITMENT TO PATIENTS’ QUALITY OF LIFE

In January, we award prizes to participants in a photography contest in Malaysia called “Snapshot – quality of life in dialysis”. The competitors, all of whom are dialysis patients, entered photographs and a short description of less than 20 words to demonstrate that despite their illness they can lead a normal, happy life. One of the winning photos shows the light-hearted scene of a dialysis patient walking with his wife at a beach during their honeymoon. You can find further information on “Holiday Dialysis International” — starting on page 58.

5 — Ecuador

MARKET ENTRY OF THE DIALYSIS SERVICES BUSINESS

In December, Fresenius Medical Care takes over eight privately run dialysis clinics in Northwest Ecuador, where more than 1,000 dialysis patients are being treated. Thanks to this acquisition, Fresenius Medical Care can expand its presence in the local dialysis market. Over 6,000 patients are already undergoing regular, life-saving renal replacement therapy in Ecuador, with many more to come: The number of dialysis patients is growing faster here than in any other country in Latin America.

6 — U.S.

CAMPAIGN FOR A HEALTHIER LIFESTYLE

In November, Fresenius Medical Care North America enters into a partnership with Aaron McCargo, a celebrity chef in the reality cooking show “Big Daddy’s House” on the television station Food Network in the U.S. Together, they will launch a campaign in 2012 with the aim of promoting the concept of a healthy lifestyle for dialysis patients. McCargo will develop tasty recipes that are suitable for dialysis patients and which they can easily prepare together with their family and friends. At the same time, patients will be encouraged to be physically active. The campaign combines fun preparing tasty meals with movement and mobility to show patients how they can live a good and fulfilled life with their disease. You can find further information on the subject “Treating patients better” — starting on page 6.

7 — Germany

EHEC CRISIS MANAGEMENT SAVES LIVES

In spring, the EHEC outbreak reaches Germany. EHEC, a pathogenic strain of an intestinal bacterium, can create a toxin that damages blood cells and vessels as well as the kidneys, leading to organ failure. A special procedure for the treatment of EHEC infection is called plasmapheresis. Fresenius Medical Care supplies all the pharmaceutical products and materials needed to carry out this kind of treatment. Demand is up 10 to 15-fold due to the outbreak. In close collaboration with the Corporate Crisis Team, our EHEC project team coordinates supply of the necessary materials to the clinics, thus contributing to saving the lives of EHEC patients.

8 — Abu Dhabi

CONTRACT SIGNED FOR THE TREATMENT OF DIALYSIS PATIENTS

Fresenius Medical Care is also treating patients in the Gulf region for the first time. In spring, the Company signs a contract with SEHA, the public healthcare service provider for the emirate of Abu Dhabi, to take over management of SEHA’s dialysis clinics. The contract comprises treatment for 600 patients in six clinics and a further clinic still under construction. The goal of SEHA is to serve more dialysis patients with first-class treatment. The cooperation is designed to run for ten years and offers Fresenius Medical Care an important opportunity to expand its dialysis services business in a key market in the Middle East. The partnership is the first of its kind between a private dialysis company and a public healthcare system in the Gulf region.

9 — Germany

APPRENTICES DISTINGUISHED

In March, seven apprentices from the Fresenius Medical Care Schweinfurt plant and three from the St. Wendel plant complete their training as electronics technicians for devices and systems, industrial and tool mechanics, machine and systems operators, as well as production managers or logistics specialists with a distinction, or finish their work study course in mechanical engineering at the Technical and Business College of the Saarland with outstanding final grades. One graduate of the course in electronics for devices and systems from the Schweinfurt plant is awarded second place by the Würzburg Chamber of Industry and Commerce – further proof of the quality of training at Fresenius Medical Care. Because Fresenius Medical Care sees training as an investment in the future, the Company continues to employ many of its apprentices after they have completed their training.



TREATING PATIENTS BETTER



How have quality standards evolved within the field of renal replacement therapy over the past decades? How do healthcare teams make sure that every patient gets the best possible treatment every time? Dr. J. Michael Lazarus (r.), former Chief Medical Officer (cmo) of Fresenius Medical Care North America, and Dr. Franklin W. Maddux, who took over this position in December 2011, answer our questions.

Fresenius Medical Care is the world leader in renal replacement therapy. This deserves recognition, as does the fact that people on dialysis now live longer and better than ever before. But you and your colleagues do not sit back complacently and say "Renal replacement therapies cannot get any better, so we will just continue doing things the way we do now." Do you think that day will come?

FM The simple answer is no. I feel we have the obligation to never be fully satisfied with clinical results unless they are ideal. While some patients can have a very good quality of life, others still face many challenges while on dialysis. Even a severely damaged kidney that still functions adequately can do much more than we can with dialysis treatment. We are happy to have created an environment in which death can be deferred, but none of us should believe we have reached the pinnacle in treating end stage renal disease. Even if we have one element of treatment quality under control, there will always be others to focus on. For example, we have succeeded in providing a consistent dialysis dose and reduced the catheter rate, but there are still many components of care that can be improved, such as optimizing patients' knowledge of nutrition and their transition to renal replacement therapy.



ML A kidney transplant is clearly the treatment of choice for patients with renal failure. But many patients will never receive a transplant, so we must make sure that such patients have access to the best hemodialysis or peritoneal dialysis therapies. This means constantly improving them with better dialysis machines, dialyzing membranes, dialysates, and related services. Certainly, we have made giant steps in improving the treatment of renal failure since 1969. We are steadily improving in small incremental steps, but we still have a long way to go.

Dr. Lazarus, you mentioned the year 1969. You were a young medical doctor back then. How was end stage renal disease treated in the U.S. in those days?

ML I trained in internal medicine at a major medical center in New Orleans – a 1,200-bed hospital which, at that time, had only one dialysis machine. Up to the early 1970s, very few patients with renal failure received dialysis, but we were aware of the enormous need for renal failure therapy; it was clearly a field where we had the potential to save many lives. At that time, there were three major medical centers providing training in clinical renal replacement therapy in this country. I applied and was fortunate to be selected by Harvard Medical School and the Peter Bent Brigham Hospital in Boston, one of the pioneering centers in the U.S. The goal of the Boston program was to provide dialysis primarily as support for patients until they could receive a renal transplant. Soon we reached the point where the number of patients on dialysis who could not have a transplant was so great that outpatient dialysis programs for patients with chronic kidney failure began to appear in abundance. At that point, the U.S. government started to provide financial support for treating renal failure and everything changed.

So what was dialysis like in those early years?

ML In those days, it was a very primitive treatment. The dialysis

machine was simply a metal tub in which bottles of concentrate were mixed with water using a large paddle; it was like making soup. Therapy took six hours, was uncomfortable, and we experienced many complications. Nonetheless, we were able to keep patients alive for years.

FM In the early 1980s, when I first began treating patients with chronic kidney failure, my initial observation was that they were struggling with the most intense effects from any chronic disease I had ever seen. The disease had a huge impact on essentially every aspect of their lives. My first patients felt very ill during their treatments. Although the methods for dialysis therapy were very primitive in those days, I saw this change rapidly over the first few years of my training and practice.

So, in your opinion, what were the milestones in the development of the kind of renal replacement therapy we know today?

FM Innovation in the field of dialysis therapy has been incremental. Besides the development of easier and more reliable machines and the introduction of crucial drugs, several things strike me as having transformed the specific mechanics of dialysis treatment. One is bicarbonate dialysis. When the dialysate only contained acetate, many patients felt nauseous during treatment. This was substantially improved when bicarbonate dialysate was introduced. (Note: Acetate as a buffer is converted into bicarbonate within the body, which can cause many patients' blood pressure to drop significantly, leading to nausea). Another was the development of biocompatible membranes which reduced the considerable immune response from exposing the foreign membrane material to patients' blood. Finally, we as physicians gained much greater control when ultrafiltration and volume control were incorporated into dialysis machines. The purpose of all these inventions was to provide patients with more stable and safe treatment.

ML I agree. The development of the hollow fiber kidney by Dr. Ben J. Lipps (note: current CEO of Fresenius Medical Care) played a very important role and was one of the first milestones. Since then, we have seen many, many improvements – ultrafiltration control, bicarbonate dialysate, central delivery systems, biocompatible dialysis membranes – that have vastly improved the situation of patients and their safety. When I started my career, we did not dialyze patients with diabetes or patients over 60 years of age. Today, 60% of all dialysis patients have diabetes, and the average age of dialysis patients in the U.S. is 62 with many aged 70 and above. Despite caring for sicker and older patients, our results have consistently improved.

A longer, better life on dialysis – that's one of the goals of the RightStart program which Fresenius Medical Care North America has been offering for almost ten years now. It was designed for new patients and resulted in a significantly lower mortality rate within the first year of treatment.

What makes RightStart successful?

FM Some of the success in improving the outcome for incident dialysis patients dates back to earlier dialysis programs initiated



Dr. Franklin W. Maddux

FM

*M.D., Executive Vice President for Clinical and Scientific
Affairs and Chief Medical Officer at Fresenius Medical Care North America ...*

... studied mathematics before becoming a nephrologist, successfully combining healthcare and information technology. He has experienced many facets of the healthcare industry: He has helped patients as a nephrologist in a combined nephrology and urology clinic (Danville Urologic Clinic, Danville, Virginia), taught students as an associate clinical professor at the University of North Carolina School of Medicine, and founded and co-founded companies such as Health IT Services Group and Specialty Care Services Group. When Fresenius Medical Care North America acquired Health IT Services Group in 2009, Dr. Maddux took on the position of Fresenius Medical Care North America's Chief Medical Information Officer. In December 2011, he has been appointed the Company's Chief Medical Officer.



Dr. J. Michael Lazarus

ML

*M.D., Senior Executive Vice President and Director of Patient
Safety Organization at Fresenius Medical Care North America ...*

... can look back on four decades as a nephrologist. He has worked in clinical practice at Brigham and Women's Hospital Boston, taught at Harvard Medical School, been a consultant and edited medical journals. From 1996, he spent 13 years as Chief Medical Officer of Fresenius Medical Care North America and set up the Company's Patient Safety Organization, which he runs today. Fresenius Medical Care North America has honored him by endowing an annual award, the J. Michael Lazarus Lectureship Award. Since 2011, it has been given to nephrologists whose research in the field of renal failure has helped to improve patients' lives.

*Dr. Lazarus and Dr. Maddux met over 20 years ago as
advisors for a company that developed voice
recognition systems for the healthcare industry.*



1
Computers and healthcare belong together. This is evident not only in Dr. Lazarus' office, but everywhere in the Company. Dr. Frank Maddux has significantly contributed to this.

2
Dr. Maddux (l.) and Dr. Lazarus at Fresenius Medical Care North America's headquarters in Waltham, Massachusetts. They not only work for the same company, but also pursue the same goal: to improve patients' quality of life.

3
Being Chief Medical Officer means having a lot of responsibility – Dr. Lazarus knows that from experience. Dr. Maddux is happy to rise to the challenge.

by both the government and the nephrology community and implemented in the early 1970s in the U.S. From the start, these programs focused on measuring clinical performance. Today, we have more up-to-date ways of measuring performance and results. We have found that patients are in a critical period and at greater risk in the first 90 to 120 days of therapy. Renal replacement therapy changes their lifestyle completely. They need to be educated, they need to feel that attention is being paid to their specific needs, and they may need to be told what their needs are many times before they can fully incorporate the recommendations. RightStart participants are not only more knowledgeable about their disease, but also recognize that there is a team of people whose primary interest is to help them get better each and every day they live with this difficult illness.

ML We also take the RightStart program one step further. It is important to engage with and prepare patients with renal disease before they suffer an abrupt loss of renal function leading to an emergency situation. For example, we make sure patients are treated for hypertension and are aware of salt and dietary requirements early in their disease process. We also make sure they are on appropriate medication for complications, and we provide education on the various treatment modalities. It is extremely important that patients get a vascular or peritoneal access well before they start dialysis to make the transition easier. Patients also have to be prepared psychologically. For new patients, the change in their lifestyle is very abrupt, so we try to make it smoother and avoid hospital stays.

Avoiding hospitalization is a goal of both RightStart and the new program by Fresenius Medical Care North America, RightReturn. Why is this so important?

ML Hospitalization is expensive and we have to be as cost-effective as possible. Also, the physicians, nurses and staff in hospital are geared to solving the acute problem that caused the hospitalization, and not maintaining care for chronically ill patients. This means that we have to ensure good communication between different teams regarding changes in medication, access or other changes in therapy. Dialysis facility staff can improve patient care by coordinating with other healthcare institutions.

FM The patients' whole lifestyle has to be reorganized as renal disease progresses. It is important to ensure that care of patients moving into or out of hospital is consistent. RightReturn is designed for dialysis patients who are transferred out of hospital. The data shows that even if patients have been in hospital for a very short time, many of their biochemical and physical parameters deteriorate significantly. Care teams inside and outside hospitals have to communicate much more effectively with each other to ensure that adjustments to the patients' treatment regimen are well understood.

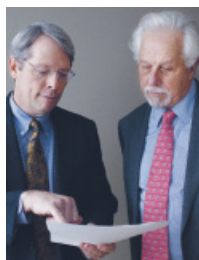
ML The physicians and nurse/technician teams working in dialysis centers or assisting patients dialyzing at home must coordinate with the hospital care team. An important aspect of this effort is an integrated information system where everybody

– patients and care teams inside and outside the hospital – work together to make sure each patient gets the best possible treatment.

Ensuring the best possible treatment for every patient is also a goal of Fresenius Medical Care North America's Patient Safety Organization (PSO). Dr. Lazarus, you are now the director of this PSO, which was officially recognized by the U.S. Agency for Healthcare Research and Quality in 2011. What can the PSO do for patients that former safety procedures couldn't?

ML We have always tracked and reacted to adverse events – complications, injury, and death – but in an unorganized manner. In 2005, the federal government passed the Patient Safety and Quality Improvement Act to encourage healthcare providers to collect, aggregate and analyze information on adverse events. This law provides federal legal privilege and confidentiality protection for medical institutions that conform with certain criteria and register as a PSO to collect and analyze data to improve patient care. Fresenius Medical Care North America decided it was important to participate in such an effort and to focus the attention of nurses, physicians and administrators on safety. Each of our more than 1,800 dialysis clinics in the U.S. participates in a quality improvement program that records and investigates the root causes of all adverse events. Our Company-wide PSO performs a more extensive global root cause analysis of aggregate data. The PSO committee meets on a regular basis to improve Company-wide systems and avoid mistakes and errors. Here's a typical example we recently encountered: Staff identified two different drugs with an identical shape, size, color and labeling which, if placed next to each other on the same shelf, would probably have got mixed up sooner or later. Buying different brands or separating similar looking drugs might prevent a serious drug mix-up in the future. Another important effort is the publication of case reports on mistakes or errors that have been analyzed. These case reports along with corrective actions are sent to staff at Fresenius Medical Care North America as "safety alerts". This is a very effective educational tool. Staff and physicians learn from other's mistakes. We often hear them saying, "Oh, this shouldn't happen to my patient" and they change their behavior.

FM One of our Company's obligations is to look critically at events, even those that occur very rarely. It's our responsibility to try to provide the best treatment for each patient and to seek to guarantee the quality, safety and efficiency of these therapies. I also feel that Fresenius Medical Care's PSO is something the whole renal community can embrace to find out how to improve its performance. So, when Mike Lazarus pushed for a Company-wide PSO, this was a sign of true leadership and vision for the renal community.



4

Nowadays, dialysis patients can feel relaxed and safe during treatment – thanks to the machines, staff and new patients' programs such as RightStart at Fresenius Medical Care North America's dialysis centers.

5

Patients adapt to their lives on dialysis much better if nurses are competent and caring. Sheryl Fletcher (r.) works with a lot of commitment and enthusiasm as a RightStart case manager at Babcock Artificial Kidney Center in Boston, Massachusetts.

6

One of Fresenius Medical Care North America's 1,816 dialysis facilities: Babcock Artificial Kidney Center in Boston, Massachusetts. Here, patients not only get their treatment but also find support in many areas of their lives.



You, Dr. Lazarus, left Fresenius Medical Care as Chief Medical Officer two years ago after holding it for 13 years and having called it a 24/7 position. Dr. Frank Maddux, you have just assumed this position: Didn't Dr. Lazarus' warning discourage you?

FM (LAUGHING) My wife is also a nephrologist, and we frequently talk about my life-work balance challenges. The world of nephrology and events in the medical practice are really part and parcel of my life and in that sense it has been 24/7 all along. I actually believe that my role as Fresenius Medical Care North America's Chief Medical Officer is primarily to provide a perspective in facilitating discussion among peers and organizing medical leadership in nephrology through collaboration with scientists, academics, clinical staff and most of all practicing nephrologists. I like to look at patients in the most holistic way I can and am glad to work in an organization that is hungry to build on the foundations that have already been established in this field. My job is to organize and encourage my medical and business colleagues to use their power to get the right things done, to make the best decisions and put patients' needs at the center of what we do. I recognize what my predecessors, Drs. Lowrie, Lazarus and Hakim have achieved, and it's my desire to create an environment in which we look back at the history of dialysis and of our Company and then look ahead to build strong relationships with nephrologists and provide the highest quality, safety and efficiency possible.



Talking of history: When did both of you first discover your ambition to be good medical doctors, to help patients? What were your childhood dreams, and in which aspects did they come true?

ML I did not know what I wanted to do early on in my education. I come from a family of pharmacists and I started out in that direction. Later, my very good grades gave me the opportunity to go to medical school. I felt medicine might be a career that would allow me to impact others. As a doctor, I could do medical research which would lead to improved patient care. I was fortunate during my early practice to work with experts in caring for patients with renal disease and developing renal failure therapies. Later in my career, I left Harvard and the Brigham & Women's Hospital to become Chief Medical Officer of Fresenius Medical Care North America. As a medical executive, I had many more opportunities to affect the education of nephrologists and nursing staff caring for a large number of patients. Being able to play a role in helping so many patients is a rare privilege.

FM At college, I never expected to go into medicine. I was good at mathematics and science, and all the way through college I actually thought I was heading for a career in mathematics. At Vanderbilt University, I had the opportunity to meet people who showed me how to combine maths and science with research and healthcare while working in a neonatology unit. I began to merge information technology, computer science and my developing medical interests. Later, as a physician, I found it very gratifying to have a positive impact on a patient's life. On

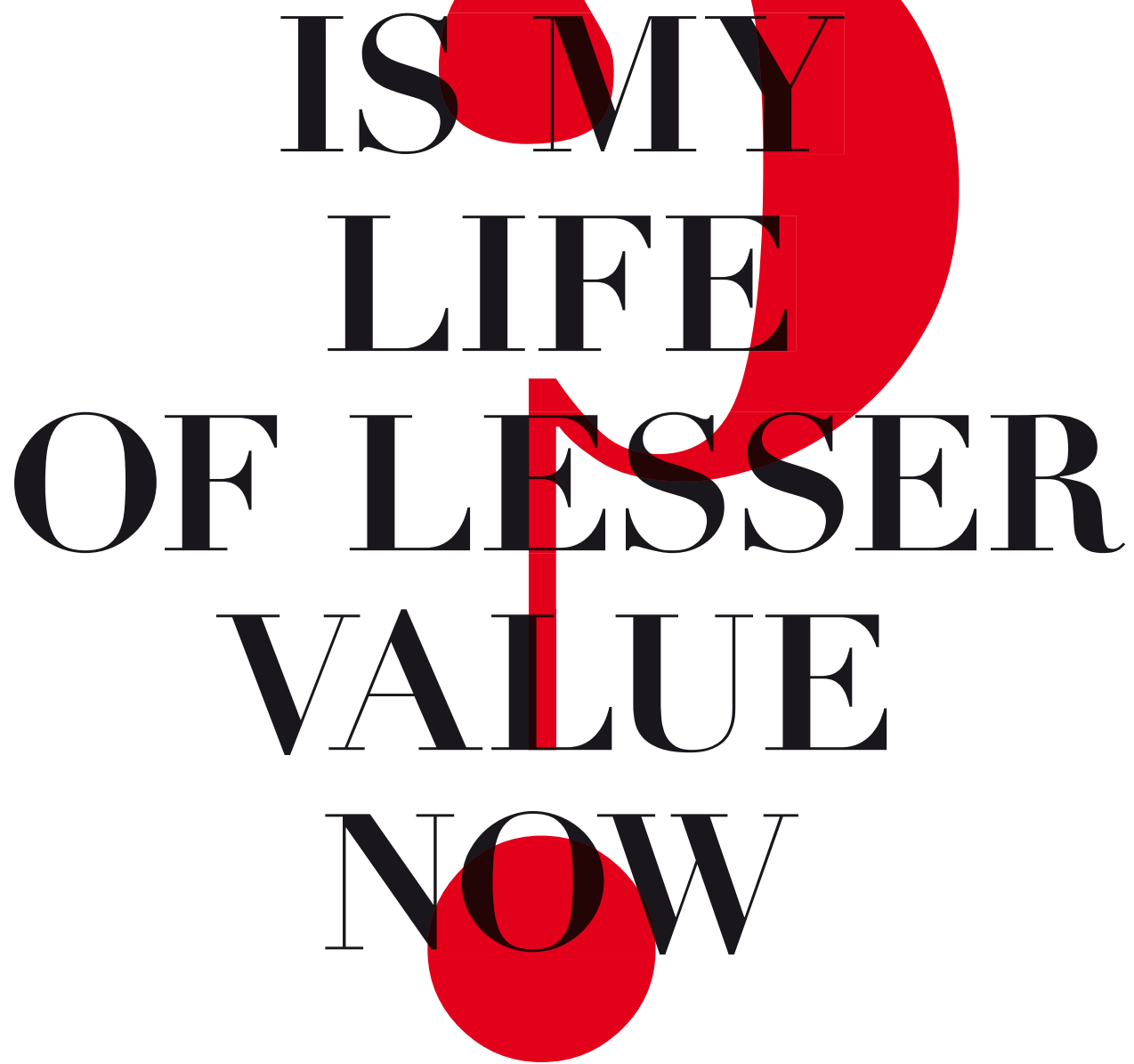
the scientific side, I've been working to make information technology less of a novelty and more of a core component of the health care delivery system. I am interested in medical leadership and think that I have been able to raise awareness among nephrologists on how to use their background to care not only for the needs of individual patients, but also to lead teams of people in caring for populations of patients. Strong medical leadership in renal disease care not only benefits patients, but the industry as a whole.

Taking a look to the near future: What aspect of dialysis quality are you and your teams currently focusing on?

ML I believe the move to a more integrated care model is a step in the right direction. Integrated care means keeping the focus on the patients with renal failure, no matter how or where they are being cared for. I envision the nephrologist being the lead physician for this particular group of patients, but working with nurses and physicians and various providers throughout the healthcare system to deliver comprehensive care. Fresenius Medical Care North America is at the forefront of efforts to implement this model in the U.S.

FM The integrated care model is also one of my greatest interests right now. It looks at the patient as an entire person, with all of their health issues including diabetes, obesity, cardiovascular disease, depression and so on. Survival, less hospitalization and quality of life are valid measures of success in the integrated care delivery model. The current model of discontinuous interaction between patients and the care team is moving toward more continuous observation and regular interaction to improve the patient's health and overall outcome. We want to provide the best care for patients undergoing dialysis treatment in all aspects, and not just provide dialysis therapy.

Read more about integrated care and the new bundled reimbursement of end stage renal disease (ESRD) therapy in the U.S. — starting on page 20.



IS MY LIFE OF LESSER VALUE NOW

Reverend Dr. Gregory E. Thomas, a participant in Fresenius Medical Care North America's RightStart program, on his first 120 days on dialysis.

Before going on dialysis, Reverend Gregory E. Thomas had a full agenda. The former corporate trainer has been pastor at Calvary Baptist Church in Haverhill/Massachusetts for 23 years. Besides this commitment, he traveled a lot working as a speaker, teaching at universities and writing articles. The church is like a family to him. But he also places great importance on spending time with his wife, Janie, and his two daughters, Eli and Jennifer. Undergoing dialysis every other day changed his whole life.

Can I still travel?

How can I keep
on working?

Where has my
appetite gone?

How does a
vascular access work?

Who will listen to my
hopes and fears?

What changes do my family
and I face now?

Why am I this tired?



"If someone asked me today how to deal with undergoing dialysis, I'd answer: Understand that the change in your life will make you re-evaluate things. It'll define why you get up in the morning, it'll define your relationships with your family and friends. You can adapt to therapy. Life is not over. I see myself as a very blessed man! God is good."

September 20, 2010

I've just had my first dialysis session. I never thought it would come to this, even though I've had health issues ever since my heart attack back in 2006. I had treatment for obesity and hypertension and the doctors kept warning me my kidneys were failing. Months ago they told me they wanted to create a dialysis shunt — see page 19 in my arm, but I said no. I lived in denial. I hoped to recover on my own terms and carry on being there for my community. Also, Janie and I planned on traveling back to Germany soon. We lived in Frankfurt from 2003 to 2009, where I was working as a professor while pursuing my second doctorate. But one week ago, I got terrible cramps and Janie had to rush me into hospital. I could no longer refuse to have the fistula implanted. Later on, I learned that the pain hadn't been caused by my kidneys but by food poisoning. Nevertheless, my kidney function was deteriorating. I received my first dialysis today using a catheter because it will take several weeks for my shunt vein to have sufficient blood flow for dialysis.

September 21, 2010

Today, I feel totally wiped-out. Just when I needed to take care of all the things I couldn't do yesterday! And tomorrow, I've got another treatment. I'm beginning to worry: How can I work when I have treatment one day and feel bad the next? Will this get any better? Why has God chosen this for me?

September 30, 2010

The doctor for my unit has informed me that he is not pleased with my clearance levels. I do not know what this means. I have to start reading the material they gave me.

October 5, 2010

Because dialysis and blood cleansing are only one part of treatment for my impaired kidneys, I have to change my diet. That means less fluid intake, only a little salt, and food that is low in potassium and phosphorus. There are so many things to think of. Janie is a great cook, but this transition has made me lose all my appetite. I used to love fried chicken, now I can't even stand the smell of it. I have been transferred out of the hospital to a dialysis center. From now on, I'll go to centers like this. Having applied for an academic grant in Boston, I found out that the Kidney Center there is just up the street from Boston University School of Theology. This is great!

October 10, 2010

Yes, I do have doctors who give me excellent data. But do I really have someone who will listen to me, apart from my family, someone who I can tell about my fears and hopes regarding my condition?

October 17, 2010

There is so much to do, what with treatments, doctors' appointments, fistula exercise — I often feel tired. But at least I was awarded the academic fellowship I wanted. Here in Boston I have enrolled in a program called RightStart offered by Fresenius Medical Care North America. RightStart means one nurse is assigned to me as my case manager and shares medical knowledge with me. A dietitian helps Janie and me find out about what food I should eat and a social worker takes care of my health insurance issues. I also received a handbook full of information about life on dialysis.

October 19, 2010

I met my case manager. Her name is Sheryl Fletcher and she has been a nurse for 25 years. She realized that I object to the dialysis machine, and she told me: "Buddy, this machine is keeping you alive!" She also informed me about other treatment options, for example home hemodialysis, peritoneal dialysis or a kidney transplant.

Sheryl Fletcher remembers: Dr. Thomas didn't ask many questions when I first met him. He listened to me, yet I felt he wasn't really taking in what I was saying to him. He was overwhelmed by the transition. In the first month, I went over his dialysis options, the general layout of the facility, and introduced him to the staff. His appetite was poor — in the beginning he had the typical build of a former football player, now he was losing weight rapidly. You could sense he didn't feel well about his own body.

November 19, 2010

My wife tells me: "I think you are depressed!", which I deny. But she insists on it. I do admit I have a lot in my head at the moment. But when you're on dialysis three times a week for several hours, you have a lot of time to brood over things. Oh,

“I’ve made the decision to slow down
and to delegate some of my tasks
to others. And I accept the dialysis
machine as my lifeline.”



time! How do we use our time while we are alive? How do we use other people's time? Is my life of lesser value now that I'm not as productive as I used to be?

November 30, 2010

Sheryl seems to understand what I'm going through. But can I verify the information she gives me? I have started to ask other patients what they know about dialysis. They paint me a picture of how they understand it in their own words. What they tell me is identical to what Sheryl has told me! So I can trust her.

Sheryl Fletcher remembers: Dr. Thomas obviously is more used to helping others than accepting help himself. The second month, I went over how healthy kidneys function and explained the dialysis process. He listened attentively to what I had to say. I reviewed his lab results with him, and he asked appropriate questions.

December 7, 2010

I am getting used to my 'learning materials' – or rather to Sheryl Fletcher's format of presenting them to me. I can discuss my work obligations and my need to travel with her. Sometimes I reflect on the time spent with her and can say, that was a good session. Overall, I am starting to feel better.

December 12, 2010

I admit that losing control of my body was to a certain extent also the result of my actions a long time ago. I can't change the situation any more, but I can help my body to adjust to dialysis by being an effective partner to the doctors, nurses and technicians.

December 16, 2010

It's my 63rd birthday. I am glad to have another year, another day! I have come to accept that the dialysis machine is not a noisy necessity, but my lifeline. I am also happy about my conversations with Sheryl Fletcher. She does a great job of not only testing me on specific material, but also letting me talk about how I feel concerning my situation. I certainly thank her for her patience! And I have found friends among the other patients. It's a gift not to be alone in this situation.

December 25, 2010

No dialysis today, but Christmas celebrations with my community. I have made the decision to slow down. I might not be able to finish my second doctorate as soon as I had hoped. I might not be able to spend as much time with my community as I used to, so I have begun to look for people who can take over. My family is a source of stability to me. I thank the Lord for all of that.

Sheryl Fletcher remembers: Dr. Thomas didn't seem to be so depressed anymore. That's good! By the third month, he was familiar with his labs. His appetite was improving. He still has to deal with his crazy work schedule, changing his dialysis schedule and facilities to accommodate his work obligations.

January 20, 2011

My RightStart program should be over now, but I have missed several units because of my work, and there are still things I need to know about emergency procedures and about traveling while on dialysis. My time in Boston will be over soon, and Sheryl Fletcher has promised to continue working with me even after I have changed facilities. I don't know whether I can get a transplant, or whether my fistula will work – I'm still using the catheter. But I've got used to the dialysis machine now, and I realize that I have been critical of people and issues that were there only to help me. Lately I've been thinking about theology and my illness. How can I convey this to others? I could do research and write about it, I could hold lectures, I could preach. In any case, I hope I can travel to Germany very soon!

Sheryl Fletcher says: It's okay when new patients vent their frustration, cry, or complain! They are in the process of changing their lifestyle; it's a grieving process. RightStart gives each case manager the opportunity to be there for new patients in a one-on-one setting. Seeing the difference in patients between when they come in to when they finish the RightStart program is one of the most wonderful things about my job. And many keep in touch even after getting a transplant or moving, just like Dr. Gregory E. Thomas.



SHERYL FLETCHER
Case Manager

1 HEMODIALYSIS (HD)

Blood cleansing outside of a patient's body using dialyzers and machines. The patient's blood flows through bloodlines into a special filter, the dialyzer, where it is cleaned of toxins, among other things, which pass into the dialysate. The purified blood then flows back into the patient's body. The whole process is controlled by the dialysis machine.

2 PERITONEAL DIALYSIS (PD)

Blood cleansing within the body, using the peritoneum as a dialysis membrane. Sterile dialysate flows into the patient's abdominal cavity via a catheter that has been surgically implanted. The dialysate absorbs toxins, for example, and flows back out of the patient's body. This treatment method requires a high degree of personal responsibility from patients, who in return are able to stay comparatively mobile.

3 RIGHTSTART

Fresenius Medical Care North America's quality improvement program to guide new hemodialysis patients through their first 120 days of treatment. Case managers, dietitians and care teams help patients become dialysis experts and support them in changing their daily routine. Studies have shown that RightStart reduces the mortality rate within the first year of treatment, prevents complications and improves patients' overall wellbeing.

4 RIGHTRETURN

Fresenius Medical Care North America's new program for dialysis patients moving back from hospital to an outpatient setting. Controlling patients' hemoglobin levels and dry weight and improving communication between care teams inside and outside the hospital help to keep patients' health stable.

5 SHUNT

Connection between a vein and an artery created by a surgical procedure, usually in the forearm. An arteriovenous fistula (AV fistula) works using the patient's own body material; if this isn't possible, a synthetic tube (graft) is implanted to connect the vein and artery. After a few weeks, the blood flow within both fistula and graft is strong enough to enable dialysis to take place via the patient's arm.



6 CATHETER

Hemodialysis is done via a catheter as a last resort in emergency situations or for treating patients whose veins do not allow a fistula (up to 10% of the patient population). The catheter is a tube ending in the superior caval vein or the right atrium of the heart. Extreme caution is required due to the high risk of thrombosis or infections.

FROM BUNDLED REIMBURSEMENT TO INTEGRATED CARE?

Can the new bundled reimbursement system for dialysis in the U.S. – the Prospective Payment System (PPS) along with its Quality Incentive Program (QIP) – really lead to more efficient treatment at a lower cost? “It can,” says Rice Powell, Vice Chairman for Fresenius Medical Care and Member of the Management Board responsible for the region North America. “PPS and QIP are steps in the right direction,” Powell points out. “That’s why we’ve been preparing with specialized teams for the change everywhere in our Company at an early stage.” PPS and QIP came into force on January 1, 2011. Before this, Medicare, the federal health insurance, took a piecemeal approach to reimbursing treatment for end-stage renal disease, with a composite rate to cover dialysis while laboratory tests, drugs etc. were billed separately. Since 2011, dialysis providers have been able to opt into the new reimbursement system, which bundles payments for dialysis treatment, most drugs and laboratory tests. Commencing 2014, they will all have to join the new system. Medicare beneficiaries constitute more than 80% of dialysis patients in the U.S., making this migration “the biggest challenge in the U.S. dialysis system in probably 25 years,” according to Rice Powell.

RIISING TO THE CHALLENGE

Dialysis providers face complex challenges: The bundle’s size varies depending on the patient’s age and comorbid conditions. In addition, it has been calculated in such a way that it scarcely covers dialysis providers’ expenditures. And if a dialysis facility does not meet the requirements of the QIP exactly within one year, it faces deductions for the next year of up to 2% at present.

Which are the most important quality parameters that will have to be measured to meet the requirements of the QIP? Rice Powell points out: “We at Fresenius Medical Care North America have always measured eight to nine critical medical parameters, and have always focused on the quality of treatments.” So it is no surprise that the Company’s performance is above the U.S. average, but Rice Powell wants more: “We could improve in the area of anemia management, especially with respect to patients coming out of a hospital.” As a result, Fresenius Medical Care North America is currently collaborating with hospitals to improve communication, for example with its RightReturn program designed for patients being discharged from hospital.

From 2014 onward, the QIP will not only take blood values into consideration but also other quality parameters. Fresenius Medical Care North America rises to that challenge, too: “We believe that one of the key outcomes of treatment that the QIP will demand is the patient’s vascular access,” Rice Powell states. “This was one of the reasons why our Company acquired American Access Care Holdings, a vascular access company.”

Preparing for the new reimbursement system also involved extra work for many at Fresenius Medical Care North America: Nurses, physicians and technicians completed training courses, company leaders met with government officials to share their data and views, and engineers developed the innovative 2008T dialysis machine, which allows data to be analyzed and uploaded into the database while the patient is receiving treatment. The launch of the 2008T

was a success: "We sold 10,000 units from September 2010 through December 2011, which I am very pleased with," says Rice Powell.

Talking to the government has also proven fruitful, resulting in the annual inflation adjustment that became part of the PPS, for example. "We have been trying to get an automatic inflation adjuster for more than a decade and finally it

providers could form organizations giving patients one team of health professionals who work together and around them, including teaching them how to develop a healthier lifestyle.

Rice Powell explains why integrated care leads to savings: "The average dialysis treatment in the U.S. costs about \$80,000 per patient a year. Dialysis providers get paid about half of that, the rest goes



"WE WANT TO TAKE THE NEW REIMBURSEMENT SYSTEM ONE STEP FURTHER TO WHAT WE CALL INTEGRATED CARE."

RICE POWELL

*Vice Chairman for Fresenius Medical Care
and Member of the Management Board
responsible for the region North America*

has happened," Rice Powell reports. In addition, the Centers for Medicare & Medicaid Services (CMS) eliminated the transition adjuster which would have meant a 3.1% payment reduction to dialysis providers to compensate the government for the fact that providers had four years to opt into the new system. As over 80% of the more than 5,500 U.S. dialysis facilities chose the "bundle" right away, CMS stopped the transition adjuster on April 1, 2011.

INTEGRATED CARE: A PROMISING PILOT

Patients at Fresenius Medical Care North America's facilities have indicated that the new reimbursement system does not put any additional strain on them. To help patients, the Company wants to take the new reimbursement system "one step further to what we call integrated care," Rice Powell reveals. Integrated care means that the nephrologist is the primary doctor and manages all concomitant diseases, such as diabetes and heart failure, too. In the long run, the reimbursement bundle should cover all areas of care, including vascular access. Dialysis

to physicians, say, or is spent on hospitalization." Integrated care projects can prevent medical complications and thus save money, as Fresenius Medical Care North America has already proven. "The U.S. government asked us to take part in a pilot study with 1,000 dialysis patients who participated actively over a period of five years," Rice Powell reports. "We took care of all of their treatment, and if a patient had to go into a hospital, we monitored exactly what happened to him there." This improved patients' stability and reduced the cost of treatment by 5 to 6% in that pilot program.

As a result, Fresenius Medical Care North America hopes to roll out a pilot study: "Together with DaVita, another major dialysis provider, we have asked the government to grant us the right to extend this project to 25,000 patients per company. If we stand the test, we want to ask all of our patients to participate," Powell states. He wants to prove that "we can deliver better care while causing fewer expenses for the U.S. health system."

*For more information on the bundled reimbursement system,
see last year's magazine, page 4 to 9.*

THE FUTURE IS PURPLE

240

kilometers separate
Jedda Marshall in Alice
Springs from her home
Papunya.

It is a sad day in the desert. When really, there should be cause for celebration: Jedda Marshall has finally come back to Papunya after a long time away. But an oppressive calm has fallen upon the community in the Australian outback. The 300 or so people who live here have withdrawn into their houses. The dusty streets are empty, only a few children play under the dense dark clouds, the remains of a gigantic cyclone which flooded Australia's north the day before and has now reached as far as the red and generally dust-dry heart of the continent. Jedda Marshall glances up at the clouds and says nothing. A member of her family has died. Today he will be buried, and the entire community is in mourning. But at least she can be here on this important day. And this is a major step forward.

It has been a while since Jedda Marshall lived in Papunya. She is one of many Australian aborigines whose lives are impaired by kidney damage. That is why, for seven years, she has had to live where the dialysis machines are: in Alice Springs, 240

kilometers from Papunya. The only major city in the center of Australia is known as a gateway for visitors to Mount Uluru, formerly called Ayers Rock and maybe the continent's most famous landmark. There are hotels, restaurants, shops, an airport and a railway station for tourists. But aborigines such as Jedda Marshall, who have been torn from their communities, find it extremely hard to find social support and a home in Alice Springs. "I used to live in a hostel and am now staying with another family, but I really don't know what will happen after that," the 50-year-old describes her situation.

Today, however, Jedda Marshall is back in the place where she was born, went to school, gave birth to seven children and worked in a shop before becoming ill. She owes this to the Purple Truck which has brought her home to Papunya. The Purple Truck is on its maiden trip with a complete dialysis station on board and Jedda Marshall is the first person to try out the new service. Putting the truck on the road was a joint effort by a number of organizations, including Fresenius Medical Care, which provided the equipment and helps to carry out dialysis treatments.



1
"This is a beautiful place," says Jedda Marshall
about Papunya. Since 2005,
the 50-year-old has been on dialysis
and therefore lives in Alice Springs.

2



10

percent of all
Australian dialy-
sis patients are
aborigines.

70

dialysis patients
are cared for by a
charitable
organization in
Alice Springs.

3



2

*The small pool is popular among
the village children.*

3

*Preparing for the night.
The inhabitants of Papunya
prefer to sleep outdoors.*

“ABORIGINES HAVE A STRONG BOND WITH THEIR COMMUNITIES.”

The Purple Truck is much more than a medical facility on wheels. “Having to leave their home country puts a terrible strain on the patients and their families,” says nurse Deb Lillis, who accompanies Jedda Marshall. The truck is of great social importance, as it allows the aborigines to receive dialysis treatment away from the big cities in their home environment. In view of how the project started, the truck is also a clear emblem of the aborigines’ struggle for recognition.

THE PEOPLE OF PAPUNYA

When Australia was colonized at the end of the 18th century, the aborigines gradually lost their living environment. However, it took the settlers a long time to reach the continent’s interior. Well into the 20th century, the Pintupi tribe, which makes up most of Papunya’s population, lived largely undisturbed in the region west of Alice Springs known as the Western Desert. But in the 1940s, the tribe’s troubles began with the introduction of the Australian assimilation policy. The Pintupi were driven off their land and made to settle in small villages around Alice Springs.

It was not until the last quarter of the past century that the Pintupi were able to found their own settlements in the desert as part of the so-called land rights movement. They are now considered traditional land owners again and have rights when it comes to conflicts with farmers or the extraction of natural resources. Those wanting to visit their community must first ask their permission.

The most important support for the aborigines, however, came from the international art market. Because Papunya, Jedda Marshall’s home, is not just any place in the middle of nowhere; it is

the birthplace of Australian aboriginal art. The artist cooperative Papunya Tula is the most famous school of this art form, which evolved from here at the beginning of the 1970s. Pictures from Papunya or the nearby community Kintore, 200 kilometers to the west, regularly sell for several hundred thousands of euros at auctions.

The Purple Truck would not exist without the power of the paintings or the money from the art market. Back in the 1990s, the aboriginal community in central Australia started to feel the consequences of an increase in kidney disease for the first time. The rising number of new cases now meant it was no longer just an individual problem. It had long taken on a social dimension, weakening the small communities in the outback and the cultural tradition of the aborigines.

“Important members of the community live permanently in remote cities and don’t have the opportunity to return to their country and participate in community life,” says Sarah Brown, manager of the truck and driving force behind the mobile dialysis facility. Oral tradition is a crucial part of aborigines’ culture: Traditional knowledge, manifested in song, is passed on from the old to the young. “As it is mainly the older members who are affected,” says Sarah Brown, “the community’s entire pool of knowledge is jeopardized.”

THE PICTURES TAKE ON A POLITICAL MEANING

At the end of the 1990s, the aborigines of the Western Desert decided to take things into their own hands to help members of the community affected by kidney disease. The artist cooperative



4

The tropical rains in the north only rarely send clouds to the Western Desert.

5

The Purple Truck is equipped to stay in remote places like Papunya for several weeks.



3

reproductions on the truck show paintings by famous Papunya Tula artists.

1,350

liters of water are in the tanks of the truck.

“THE TRUCK CAN BE ON THE ROAD FOR SEVERAL WEEKS.”

Papunya Tula donated four collaborative paintings, which were sold for around 800,000 € at an art auction in the Art Gallery of New South Wales in Sydney in November 2000. With this money, they founded a charitable organization called Western Desert Nganampa Walytja Palyantjaku Tjutaku Aboriginal Corporation (WDNWPT), which roughly translated means “Making all our families well”.

Since then, WDNWPT has been busy improving the situation of patients with kidney disease. In 2004, a dialysis station was opened in Kintore, enabling members of the community to come here from Alice Springs for two to six weeks at a time. In Alice Springs itself, the Purple House was set up, a small house providing dialysis and social support for aborigines from the Western Desert, where they can also receive dialysis.

Sarah Brown is the good spirit behind WDNWPT’s activities. She has been working for the organization for more than eight years. The qualified nurse had to fight hard for the Purple House. Even today, the aborigines and their activities are viewed suspiciously by many people. But this does not stop Sarah Brown. When she came to Australia from England with her parents at the age of six, she was shocked at the way whites and aborigines were treated differently. For many years now she has been working in the outback, first in the north in the Top End around Darwin, then later in Alice Springs. “I like the country’s more remote regions and to work with Aboriginal people to improve the lives of their families is a real honor,” she says.

Since WDNWPT was founded, the number of dialysis patients has increased steadily. The figure rose from seven patients in the

beginning to 35 in 2008. “Today we look after 70 patients and their families who are in Alice Springs,” says Sarah Brown. And the problems are growing, too. “The aborigines have a strong bond with their communities and the place where they live,” confirms the truck manager. In the past, the Pintupi led a nomadic life at one with nature. Even today in their villages, they prefer to sleep outdoors, under the stars. So, when they are obliged to be in the city, confined to a small room in a residential home, they also suffer psychologically,” as Sarah Brown observes on a daily basis.

HOPE ON WHEELS

But now, thanks to the Purple Truck, patients in Alice Springs can visit their communities for a few weeks to participate in family events and religious ceremonies. “We had the idea for the truck about five years ago,” Sarah Brown remembers. “Now we are proud to have it; it is owned by the community, so it is not up to bureaucrats to decide on how it is used.”

The 40-foot truck, painted with motifs from the Papunya Tula artist group, is large enough to accommodate a dialysis machine, a water treatment unit and various filter technologies. A 900-liter water tank for dialysis and a 450-liter water tank for other uses are also integrated, as well as a bathroom and sleeping quarters. A power generator can compensate for bottlenecks in the electricity supply. “The vehicle is equipped to be on the road for several weeks at a time,” says Sarah Brown.

A driver and a nurse accompany the truck. “We have a lot of experience operating dialysis machines under extreme conditions,” says Deb Lillis, who coordinates the team of ten nurses and is on board herself during the maiden trip



1
4008s dialysis machine, a water treatment unit, as well as filters and disinfection units have been provided by Fresenius Medical Care.



12
remote communities in the Western Desert will benefit from the truck. Deb Lillis coordinates ten nurses for this aim.



6
Fresenius Medical Care engineers designed the dialysis station in the Purple Truck.

7/8
Thanks to the dialysis truck, Jedda Marshall can visit her village from time to time.

9
Nurse Deb Lillis prepares the truck for dialysis.

to Papunya. But in practice, operating complex machines in the wilderness can be a challenge, as soon becomes evident. The water that the truck needs for dialysis is so warm that the cleaning filters do not work. Now it is a case for improvisation. The inhabitants of Papunya search for ice to cool the water in vain. But the small infirmary in the village has a few cool packs. Quickly, they

are diverted from their original purpose and wrapped around the filters. The rescue attempt is successful: Shortly after, the water can be cleaned.

EQUAL OPPORTUNITIES

In addition to Medicines Australia, an industrial association that donated 320,000 € to the Purple Truck, Fresenius Medical Care played a key role in the project by providing the technical installations. "In Adelaide, where the truck was equipped, our engineers worked on the concept for a long time," says Margot Hurwitz, CEO of Fresenius Medical Care Australia & New Zealand. After all, the technology has to be extremely robust. Most of the roads in the outback are dirt roads, dusty corrugated tracks that usually only an all-terrain vehicle can manage. Here the truck is subjected to extreme mechanical strain. Add to this the climatic challenges in the desert.

For Margot Hurwitz, the problems of providing medical care in the outback are nothing new. For many years, the Fresenius Medical Care manager has been personally committed to this cause. A few years ago, she even gave up her vacation to supervise construction of the dialysis station in Kintore. And when Fresenius Medical Care engineers travel all over the outback in difficult conditions to service even the



most remote dialysis station, this, too, is thanks to her endeavors to provide reasonable access to modern medical technology for aborigines.



Although aborigines only make up 2% of Australia's total population, they represent 10% of those needing dialysis. "Aborigines are up to 15-30 times more likely to get kidney disease than other popu-

lation groups," says Margot Hurwitz. This is mainly due to poverty, diabetes and hypertension as well as premature birth, skin infections and harsh environmental conditions. Kidney disease contributes significantly to the fact that life expectancy among aborigines is much lower than that of the average Australian population.

Margot Hurwitz also insisted on taking part in the Purple Truck's maiden trip to Papunya. Here, hope is growing that the medical and social challenges will now start to improve. Jedda Marshall's return proves that the road to dialysis in Alice Springs is not just one way. Soon many others will also return home and be able to participate in community life again – an important experience for the people in Papunya and elsewhere in the Australian desert.

10

Jedda Marshall enjoys her brief return to the village community.

11

Dusk in Papunya, the birthplace of aboriginal art, which is highly valued all over the world.



12
Margot Hurwitz (l.) and Sarah Brown
are happy about the Purple Truck's successful
maiden trip.

575
employees work
for Fresenius
Medical Care in
Australia.

5
years long, Sarah
Brown and WDNWPT
worked on the
truck idea.

THE FUTURE OF DIALYSIS IS GREEN

▲
Jürgen Kastl develops and coordinates projects dealing with ecologically sustainable dialysis at Fresenius Medical Care in Bad Homburg.



▲
Professor Alfred Jacoby, architect and head of the Dessau Institute of Architecture, developed a concept for a "green" dialysis clinic based on sustainable construction principles.

▲
As her regular occupation, Jitka Pancířová works as a quality manager at a clinic in Prague in the Czech Republic. She supports the "Go Green in Dialysis" initiative as a project manager on a voluntary basis.



Dialysis is a time-consuming and costly therapy. To treat one single patient over a period of several hours three times a week, dialysis clinics require large amounts of energy, water and disposable medical products. As a result, this vital measure for a growing number of patients is increasingly having a negative impact on the environment. Jürgen Kastl, an employee at Fresenius Medical Care in Bad Homburg, has therefore decided to take a new approach. Together with a team of partners, he has initiated a series of projects to open up sustainable and environmental friendly opportunities for dialysis.

Successful dialysis treatment is defined by values that measure the efficiency of treatment for individual patients: a Kt/V value of more than 1.2 points, a hemoglobin count of around twelve grams and phosphate levels of max. 5.5 mg/dL. On the other hand, an average hemodialysis session consumes an estimated 400 to 500 liters of water and ten kilowatt hours of electricity, and it produces up to three kilograms of medical waste. "In line with advances in both medicine and technology and the resulting legal requirements, the resources needed for dialysis have grown steadily over the last few decades," explains Jürgen Kastl, project manager at NephroCare Coordination, Fresenius Medical Care's dialysis services division for the EMEALA (Europe, Middle East, Africa and Latin America) region. For example, a large part of the equipment used for dialysis, such as the dialysis tubing which carries the blood to the cleansing filter, can only be used once for reasons of safety. Successful dialysis treatment still takes approximately four hours and consumes water and electricity in corresponding amounts. "Nevertheless, the industry will have to consider seriously over the coming years how to guarantee high-quality treatment for patients while making the lowest possible impact on the environment." As the number of patients with chronic kidney disease grows, so does the impact of treatment on the environment: Whereas in 1980 around 158,000 patients worldwide underwent dialysis treatment, the number had risen to more than two million in 2011. By the year 2020 this figure is expected to almost double again.

CHANGE BEGINS IN THE MIND

Fresenius Medical Care has been concerned with making its products and processes more environmentally friendly for many years. This has resulted in products and materials such as the recyclable and eco-certified Biofine foil and ongoing improvements in production processes aimed at increasing resource efficiency. The Company has also been expanding its environmental management in the clinical sector for a number of years. Not only its largest European production sites, but also more than half of its dialysis centers in Europe have since been awarded ISO 14001 certification, the international environmental management standard. Its clinics in Europe are also gradually introducing eco-controlling to collect environment-related data such as energy and water consumption as well as waste volumes.

However, as Kastl knows, the success of these initiatives depends on more than just the right standards and tools. "It calls for a real mind shift in the everyday running of the clinics. This affects everyone from dialysis specialists to doctors and clinic management." The dialysis sector still has a long way to go in terms of environmental protection, especially at clinic level, compared with other areas of the healthcare industry. Kastl, who has been with Fresenius Medical Care for almost ten years, explains that this has a lot to do with the nature of dialysis: "It is a highly complex medical treatment process, on which the patient is permanently reliant for survival." Doctors and nursing staff therefore justifiably give greater priority to safety and the quality of medical care given to the patient, as well as the many values and standards used to measure these two aspects. An additional factor is the decentralized structure of the dialysis clinics: As a rule, each center concentrates on its own business. There is still a general lack of awareness

The international environmental standard ISO 14001 defines requirements for companies' environmental management. Not only Fresenius Medical Care's largest European production sites, but also more than half of its dialysis centers in Europe have been awarded this certification.

regarding the impact of the dialysis process as a whole on the environment and the role played by each individual center. This was confirmed in 2009 at an EDTNA/ERCA (European Dialysis and Transplant Nurses Association/European Renal Care Association) conference. "Back then we carried out a survey among some 900 conference delegates and established two things," says Jürgen Kastl: "On the one hand, dialysis specialists are unable to adequately assess the actual resource requirements in their field of work. In the case of electricity, which is measured in abstract kilowatt hours, this was hardly surprising. However, one in three of interviewees indicated that they were not aware of the level of water consumption and medical waste per treatment. On the other hand, and this is good news, there is also a high level of interest in environmental protection and in making a personal commitment among clinic employees: Well over 90% of specialist dialysis staff, according to the survey, would support an environmental protection campaign in their clinic; considerably more than half see information campaigns as the best way to convince their colleagues of the need to protect the environment. This motivated us to do something to raise awareness of such an important issue, not just at Fresenius Medical Care but throughout the sector."

THE WAY TO "GREEN" DIALYSIS

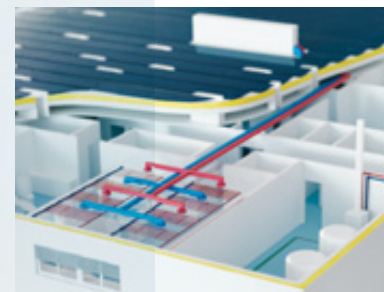
Together with EDTNA/ERCA, Kastl launched the "Go Green in Dialysis" campaign. A team of 15 specialists from the association and Fresenius Medical Care, including dialysis care experts, dialysis technicians, as well as quality and environmental management officers, developed a handbook on environmental management systems aimed at clinical staff. The handbook offers background information and practical advice on all aspects of the day-to-day running of a clinic that nursing staff, doctors and clinic management can influence by the way they behave – from purchasing electrical appliances, electronic equipment, auxiliary and cleaning materials and using them consciously to separating waste for recycling and using water more efficiently. For example, the handbook draws attention to new and particularly effective water preparation systems that make it possible to use up to 85% of drinking water fed into the system for dialysis, compared to the usual 40%. It recommends centralized production and clinic-wide distribution of dialysis concentrates with the help of special equipment, instead of using smaller plastic canisters for liquid concentrates, which end up as waste products and need to be transported to clinics, thus boosting CO₂ emissions. It also gives advice on taking small, simple steps, for example, clearly labeling waste containers, employing energy-saving LED lights and using cleaning and disinfectant products exactly according to instructions and therefore more efficiently. "These are all things which each and every employee in a dialysis center can do to protect the environment and which at the same time help to keep costs down – an equally urgent issue in view of the ever dwindling health budgets at present," Kastl explains.

Another important message contained in the handbook is that, however great their commitment to the environment, staff must always put patients and their needs first. "We always make sure that the advice and suggestions we give comply with the relevant industry legislation and standards relating to quality and safety," emphasizes Jitka Pancířová, project manager of "Go Green" for EDTNA/ERCA in a voluntary capacity. This can, of course, also lead to a conflict of goals. Take waste management, for example, where the maxim is "prevention before re-use, re-use before recycling and recycling before disposal." "In dialysis, however, we cannot re-use many products because they come into contact with the patient's blood, for example, and therefore cannot be recycled either safely from a medical standpoint or cost-effectively," explains Pancířová, herself a trained dialysis nurse who now works as a quality manager at a clinic in Prague in the Czech Republic. "Nevertheless, it makes a world of difference if everyone acts prudently: For example, we can all ensure that household waste is not thrown away with infectious medical waste, making it necessary to incinerate it, which causes greenhouse gases. This is exactly what still happens regularly in the day-to-day running

The European Dialysis and Transplant Nurses Association/European Renal Care Association (EDTNA/ERCA) supports collaboration and research in nephrology. A survey carried out by the association showed that dialysis experts are still not adequately informed about resource requirements in their field of work.

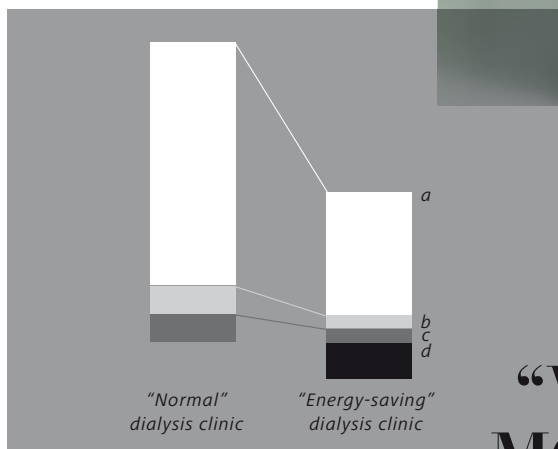


Team meeting next to the model of a CO₂-neutral, "green" dialysis clinic.



Clinic design for reduced energy consumption

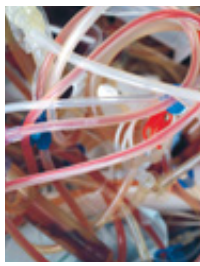
- a — ventilation, cooling, heating
- b — hot water
- c — lighting
- d — energy production



Together with 15 specialists, Jürgen Kastl developed a handbook about environmental management for staff at dialysis centers.

**"WE WANTED TO
MOVE AWAY FROM
A LARGE NUMBER
OF GOOD INDIVIDUAL
IDEAS TO A MORE
HOLISTIC APPROACH."**

Jürgen Kastl



▶
The large windows in the “green” dialysis clinic allow plenty of light and natural warmth into the rooms.



▲
Jürgen Kastl is sure that each and every employee in a dialysis center can contribute to environmental protection and, in so doing, help to save costs.



▲
Granumixplus machine to produce dialysis concentrate in the clinic: The prepared concentrate is transferred directly to the dedicated tank for storage. Thanks to this closed system, the concentrate stays clean and dust-free without spilling.



▲
Solar cells on the roof of the CO₂-neutral dialysis clinic: The combination of renewable energy forms, a smart outer shell design and technologies for efficient energy recovery means that the clinic can cut down on as much carbon dioxide as it produces during dialysis, water preparation and other operations.

“IT IS POSSIBLE TO LOWER A CLINIC’S ENERGY AND WATER CONSUMPTION SIGNIFICANTLY SIMPLY BY RAISING AWARENESS AMONG EMPLOYEES.”



Would you support an environmental protection campaign in your dialysis unit?

- a — No, I do not see the need
- b — Yes, I would support it if I have time
- c — Yes, I consider it mandatory

a — 19
b — 221

c — 627

Jitka Pancířová presents the “Go Green” team’s handbook to dialysis experts from all over Europe at the 40th EDTNA/ERCA conference in Ljubljana in Slovenia.



All staff can contribute to preserving resources in their everyday work at the clinic.

of a clinic. We estimate that by dealing with waste more carefully, we could reduce the generation of infectious waste by up to 50%. It is possible to lower a clinic's energy and water consumption significantly simply by raising awareness among employees."

ACHIEVING MORE TOGETHER

In September 2011, Jürgen Kastl and Jitka Pancířová presented the "Go Green" team's completed handbook to an audience of specialists at the 40th EDTNA/ERCA conference in Ljubljana, Slovenia. "We were allowed 45 minutes to make our presentation – a sign that we are not alone in considering this an important issue," Kastl says proudly. With their joint project, Fresenius Medical Care and EDTNA/ERCA will be able to spread awareness about environmental protection among a considerable number of dialysis specialists across Europe: Around 1,000 association members read the quarterly EDTNA/ERCA newsletter, which the team regularly used to report on the progress of the "Go Green" project. The excitement it sparked in the "Go Green" team was a particularly fulfilling experience. "Our team was made up of experts from ten countries and a wide range of disciplines," says Pancířová. "We all wanted to achieve something. This multidisciplinary, multicultural approach and the high level of motivation in the team resulted in a lively exchange of expertise and experience. It also ensured that, despite our day-to-day workload, we all continued to make a joint commitment." Over the coming years, Fresenius Medical Care and EDTNA/ERCA plan to continue working together, including mounting an information campaign aimed at dialysis specialists to further embed environmental protection issues in their consciousness. By 2015, Fresenius Medical Care intends to establish the environmental management handbook as the standard in all of its clinics in the EMEA (Europe, Middle East and Africa) region.

FROM THE INDIVIDUAL TO THE WHOLE ...

"In dialysis, the human factor is crucial when it comes to protecting the environment. This was the thinking behind 'Go Green'," explains Jürgen Kastl. "However, 'green' dialysis can and should go further still in our opinion." The next step for NephroCare was to make those elements of dialysis more environmentally-friendly over which individual staff members have no control, namely the clinic building itself, including the outer shell, the interiors and the building technology. "We wanted to move away from a large number of individual good ideas and solutions for greater energy efficiency as outlined in dialysis literature to a more holistic approach," explains Kastl. Together with the German Energy Agency (dena), he and a team of members from NephroCare Coordination and Technical Services & Infrastructure developed a model for a CO₂-neutral dialysis clinic. The concept is simple: By combining renewable energy forms, a smart outer shell design and technologies for efficient energy recovery, a clinic can cut down on as much CO₂ (carbon dioxide) as it produces during dialysis, water preparation and other operations. For example, it can mount solar cells on the roof to produce electricity, recover heat from the waste water produced during dialysis, and install special insulation for the walls and outer shell of buildings. "This model was very important to us," Kastl emphasizes. "It showed us that a dialysis clinic can in fact be designed as an energy-efficient integrated system. And that its energy consumption can, under ideal conditions, be reduced by half! But the concept was not detailed enough at first to implement it. It was also concerned exclusively with the carbon footprint, and did not take the patient's perspective and needs sufficiently into account."

The German Energy Agency (dena) is a center of excellence for energy efficiency and renewable energies. Together with dena, Fresenius Medical Care has developed a model for a CO₂-neutral dialysis clinic.

The fact that this perspective carries significant weight can be gleaned from the Company's comprehensive architectural guidelines for constructing and renovating dialysis clinics at Fresenius Medical Care. "Dialysis patients, who mostly lie on a daybed during their long treatment sessions and are barely able to move, have different needs to healthy people when it comes to comfort," explains

Kastl. For this reason, along with the many technical and structural requirements set out in the guidelines, they also include statutory thresholds concerning room temperature, humidity, light and noise levels in a clinic. And these can be considerably at odds with what would be considered ideal conditions for energy efficiency in any other building. Take, for example, room temperature: In a dialysis treatment room, the temperature should be between 22 and 24 degrees Celsius, whereas 19 degrees is normally recommended for homes. Or lighting: A light intensity of 500 lux is prescribed for treatment rooms compared to 300 lux recommended for homes. The reason for this is to prevent mistakes in administering the correct drug dosage, a correlation that is corroborated by studies.

... AND FROM THEORY TO PRACTICE

Implementing the concept of a sustainable dialysis clinic should therefore involve combining eco-friendly construction expertise and energy-efficient technologies with an understanding of the specific requirements of dialysis patients. This is precisely what Kastl and his team wanted to achieve with a practical handbook on how to construct sustainable dialysis clinics at NephroCare. The result was a joint project involving specialists in clinic architecture at NephroCare, the Technical Services & Infrastructure department and the Dessau Institute of Architecture, a post-graduate program for architects at Anhalt University of Applied Sciences in Dessau that specializes in eco-friendly construction. "Architecture is often concerned with prestige, resulting in buildings that emphasize form and are therefore mostly self-referential. But a dialysis clinic is an integral part of every patient's life. It is essential and important that they feel comfortable there. This was a great incentive," says Professor Alfred Jacoby, architect and head of the Dessau Institute of Architecture, describing the team's reason for taking on the project. But it also presented some challenges, as he recalls. "Initially, there was a clash of different approaches in our workshops. But that made the project even more exciting and constructive. We were continually forced to question the theory behind sustainable construction, to examine its practicality for dialysis based on the data received from NephroCare specialists and then find individual solutions." One discovery was that the required lighting conditions in the clinic could be made more energy efficient by fully exploiting natural light through a special window arrangement and the way certain surface materials and colors in the clinic's interior interacted. By using ground-coupled heat pumps and heat from the processed water that has to be at a temperature of 37 degrees Celsius for treatment, energy can be recovered and diverted to the building. These and other solutions, taken together, can reduce a clinic's **energy consumption** by 20 to 50%.

STEP BY STEP TO SUCCESS

Jürgen Kastl and his team intend to present their new handbook in 2012 at a workshop for Fresenius Medical Care architecture specialists in the various countries in the EMEA region. In the same year, it will be put to practical use for the first time when the Company builds two "green" pilot clinics. According to Kastl, the number of dialysis centers that Fresenius Medical Care can build to this new standard in the future will depend on whether partners can be found to realize the project. In the early stages, the investment is higher because of the costly construction techniques, and the current financial crisis is putting added pressure on healthcare budgets in many countries. Nevertheless, this does not change the Company's objective to lead the market in terms of environmental protection, too. "The projects we have initiated over the last few years at NephroCare with our partners have set a benchmark in our sector," Kastl is convinced. "Our goal for the coming years is to continue making dialysis greener step by step."

Clinics can reduce their energy consumption by 20 to 50% by various means, for example a special window arrangement or the way certain surface materials and colors in the clinic's interior interact.

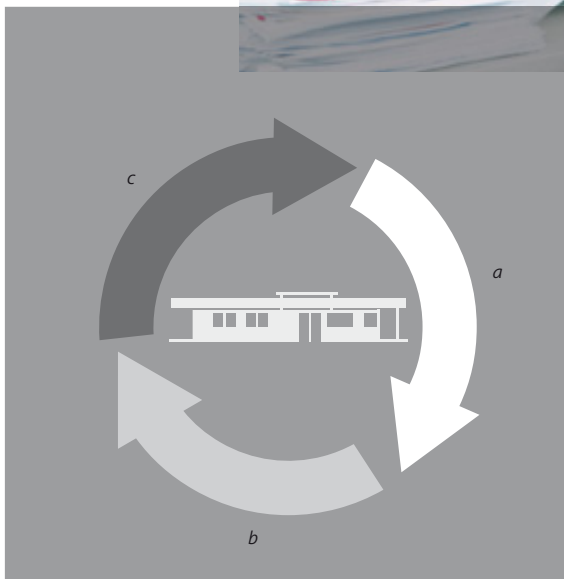


“IT IS ESSENTIAL AND IMPORTANT THAT THE PATIENT FEELS COMFORTABLE IN A CLINIC.”

Alfred Jacoby



Prof. Alfred Jacoby's work has paid off: Fresenius Medical Care will build two “green” pilot clinics.



Elements of CO₂-neutral dialysis

a — Special features of the building shell: reduced energy requirements, optimal insulation, high-quality windows, airtight shell

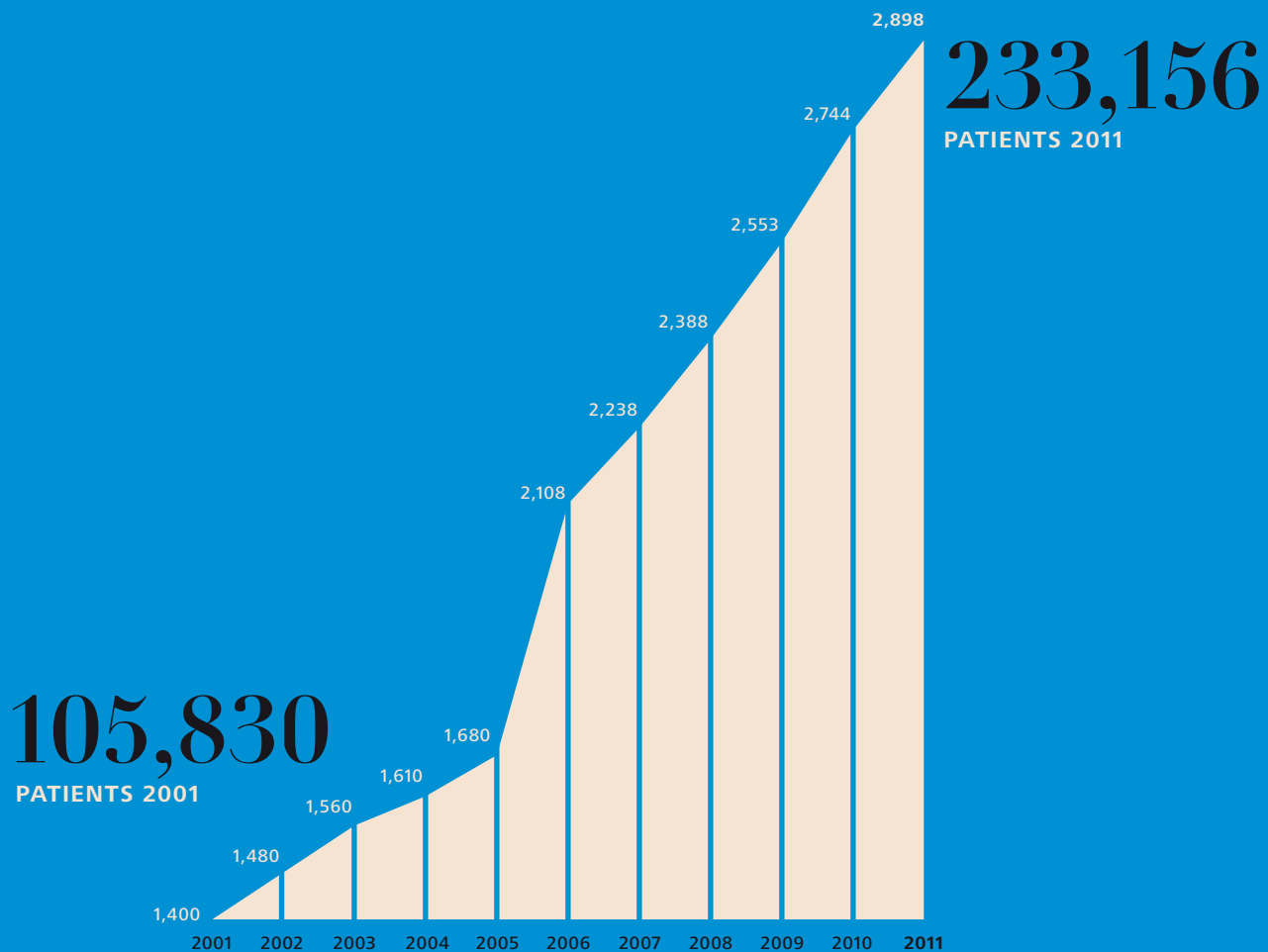
b — Efficient energy conversion: Energy conversion with efficient heating technology and renewable energy

c — Use of renewable energies: solar energy, geothermal energy, bio energy, wind



OUR MOTIVATION IN NUMBERS

*Increase of
dialysis clinics*



+1,498

THIS IS THE NUMBER OF DIALYSIS CLINICS
FRESENIUS MEDICAL CARE ADDED OVER THE LAST TEN YEARS.
THIS WAS A REFLECTION OF THE CONSTANTLY
INCREASING NUMBER OF PATIENTS.

12,795

NET REVENUE 2011 in \$ M

+6%

INCREASE OVER THE
PREVIOUS YEAR

2,632

EARNINGS BEFORE INTEREST, TAXES,
DEPRECIATION AND AMORTIZATION (EBITDA) 2011 in \$ M

+8%

INCREASE OVER THE
PREVIOUS YEAR

2,075

OPERATING INCOME (EBIT) 2011 in \$ M

+8%

INCREASE OVER THE
PREVIOUS YEAR

1,071

NET INCOME (ATTRIBUTABLE TO SHAREHOLDERS
OF FRESENIUS MEDICAL CARE AG & CO. KGAA) 2011 in \$ M

+9%

INCREASE OVER THE
PREVIOUS YEAR

1,446

OPERATING CASH FLOW 2011 in \$ M

+11%

INCREASE OVER THE
PREVIOUS YEAR

876

FREE CASH FLOW 2011 in \$ M

+2%

INCREASE OVER THE
PREVIOUS YEAR

570

CAPITAL EXPENDITURES, NET 2011 in \$ M

+12%

INCREASE OVER THE
PREVIOUS YEAR

50%

FRESENIUS MEDICAL CARE PRODUCES EVERY SECOND
DIALYSIS MACHINE WORLDWIDE

REVENUE BY REGION AND SEGMENT *in \$ M*

NORTH AMERICA: 8,150
10 % Dialysis products: 813
90 % Dialysis services: 7,337

EUROPE: 2,948
55 % Dialysis products: 1,629
45 % Dialysis services: 1,319

ASIA-PACIFIC: 980
63 % Dialysis products: 614
37 % Dialysis services: 366

LATIN AMERICA: 700
30 % Dialysis products: 215
70 % Dialysis services: 485

LOCATIONS AMERICA

- ▶ 01 Waltham, US, Regional headquarters North America
- ▶ 02 Ogden, US, Dialyzers
- ▶ 03 Walnut Creek, US, Dialysis machines
- ▶ 04 Toledo, US, Hemodialysis concentrate
- ▶ 05 Livingston, US, Hemodialysis concentrate
- ▶ 06 Montreal, CA, Hemodialysis concentrate
- ▶ 07 Irving, US, Hemodialysis concentrate
- ▶ 08 Reynosa, MX, Tubing systems
- ▶ 09 Guadalajara, MX, Dialysis solutions
- ▶ 10 Santafé de Bogotá, CO, Dialysis solutions
- ▶ 11 Jaguariúna, BR, Dialysis machines
- ▶ 12 Pilar, AR, Hemodialysis concentrate

EUROPE

- ▶ 13 Bad Homburg, GER, Company headquarters
- ▶ 14 Schweinfurt, GER, Dialysis machines
- ▶ 15 St. Wendel, GER, Dialyzers
- ▶ 16 L'Arbresle, FR, Dialyzers & Dialysis solutions
- ▶ 17 Cremona, IT, Tubing systems
- ▶ 18 Borisov, BY, Dialyzers & Tubing systems
- ▶ 19 Krems, AT, Adsorber
- ▶ 20 Vrsac, SRB, Dialyzers & Dialysis solutions
- ▶ 21 Antalya, TR, Adsorber

ASIA-PACIFIC

- ▶ 22 Hong Kong, CN, Regional headquarters Asia-Pacific
- ▶ 23 Inukai, JP, Dialyzers
- ▶ 24 Buzen, JP, Dialyzers
- ▶ 25 Jiangsu, CN, Tubing systems
- ▶ 26 Ipoh, MY, Water treatment systems
- ▶ 27 Smithfield, AU, Hemodialysis concentrate
- ▶ 28 Victoria, AU, Dialysis chairs



34,390,000

DIALYSIS TREATMENTS
WORLDWIDE

2,898

CLINICS WORLDWIDE

EUROPE/MIDDLE EAST/AFRICA

Patients: 48,346
Clinics: 600
Dialysis treatments: 6.6 M

BAD HOMBURG, GER

HONG KONG, CN 22

ASIA-PACIFIC
Patients: 17,110
Clinics: 242
Dialysis treatments: 2.5 M

79,159

EMPLOYEES WORLDWIDE

233,156

PATIENTS WORLDWIDE

1,775

ACQUISITIONS, NET OF DIVESTITURES 2011 *in \$ M*

+188%

INCREASE OVER THE
PREVIOUS YEAR

3.54

EARNINGS PER SHARE 2011 *in \$*

+9%

INCREASE OVER THE
PREVIOUS YEAR

0.69

DIVIDEND ORDINARY SHARE 2011 *in €*

+6%

INCREASE OVER THE
PREVIOUS YEAR

16.2

EBIT MARGIN 2011 *in %*

16.0

PREVIOUS YEAR

8.7

RETURN ON INVESTED CAPITAL (ROIC) 2011 *in %*

8.8

PREVIOUS YEAR

41.0

EQUITY RATIO 2011 *in %*

44.0

PREVIOUS YEAR

13.6

RETURN ON EQUITY (ROE) 2011 *in %*

13.3

PREVIOUS YEAR

+255%

PERFORMANCE GROWTH
OVER THE LAST TEN YEARS

*Net income, attributable to shareholders
of Fresenius Medical Care AG & Co. KGaA
in \$ M*

2001

245

2002

302

2003

331

2004

402

2005

455

2006

537

2007

717

2008

818

2009

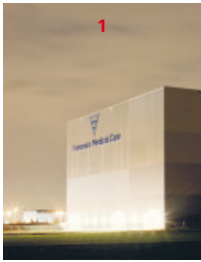
891

2010

979

2011

1,071



DELIVERED

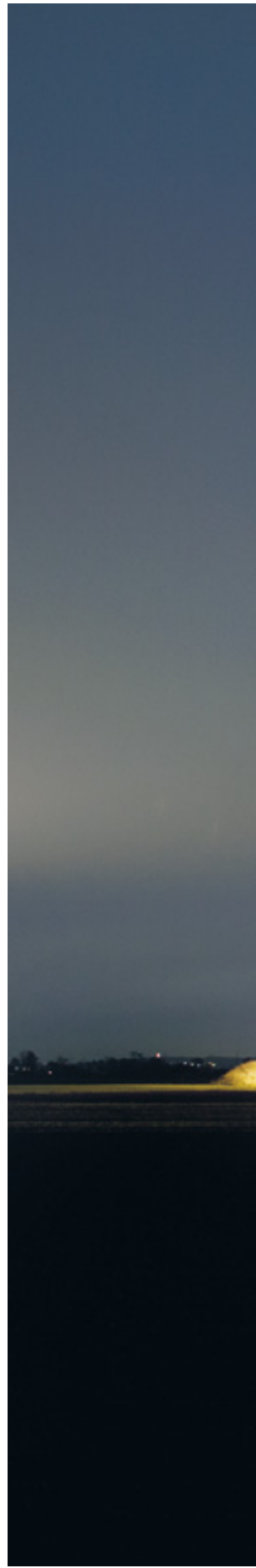
1/2

Even when the rest of the world is sleeping, Biebesheim Logistics Center is up and running. 24 hours a day, six days a week, life-saving goods for dialysis patients arrive at and leave the warehouse again. All processes are fully automatic.

3/4

As soon as a truck docks at one of the eleven gates, the storage system is set in motion. 80% of the pallets have already been given a barcode; the rest will be labeled on-site. The barcode contains all the information required by the system for correct storage. One of the many "ants" (fork lift trucks) deposits the pallet on the fast-track conveyor, which takes it into the warehouse.

RIGHT ON TARGET





Before Fresenius Medical Care products embark on their journey into the big wide world they come to Biebesheim. In 2009, the Group commissioned a new logistics center here. It does the work previously carried out by two warehouses, but more effectively and efficiently. This is thanks to state-of-the-art technology and highly motivated staff.

As Gabriele Husnik, head of the logistics center, puts down the receiver on this Thursday afternoon, it comes back to her why she has worked at Fresenius Medical Care for the last 21 years. Why she drives to Biebesheim in Hessen, Germany, every morning, stops at a nondescript box-like building at 7 a.m. on the dot and unlocks the door to her office. She has just taken a call from Bordeaux in France. A young girl is lying in intensive care suffering from acute kidney failure, and the doctors need a vital item for acute dialysis within 24 hours. No reason to panic for Gabriele Husnik and her team. Today, they will give this delivery absolute priority, and in no time, the goods will be on their way to France. Even in this extreme situation, everything will go smoothly, as it always does. That's what Husnik works towards every day.

The distribution center in Biebesheim came about as the result of a fundamental decision. Up until the end of 2008, Fresenius Medical Care operated two distribution warehouses nearby, one in Darmstadt for deliveries to Central Europe and one in Gernsheim for exports worldwide. Batch consignments and small-scale order picking mainly took place in Darmstadt. Here, cartons were assembled individually for each order and dispatched to clinics or directly to patients' homes. The Gernsheim site handled almost exclusively large full pallets that were loaded onto trucks and into containers. A full pallet holds up to 1.2 metric tons of materials for dialysis – from cannulae to bloodline systems. These consignments were then sent on to other national warehouses or distribution partners from where they were distributed regionally.

As early as 2006, the Company announced plans to end this split following a positive development for the Group. "We were growing so fast, we virtually overtook ourselves," says Joachim Höhler. The director of Supply Chain Operations at Fresenius Medical Care takes care of operational logistics from the Company's headquarters in Bad Homburg. The 44-year old manager and his colleagues recognized that the two warehouses did not have the capacity to keep pace with the Company's rapid growth. Fresenius Medical Care now supplies dialysis products to customers in more than 120 countries and the number of dialysis patients has soared by approximately 6% per year since 2006.

More space was needed to cope with this rapid development. But in Bad Homburg another idea began to mature: Why not combine batch picking and full pallet handling on one site? The many trucks would then only have to call at one location rather than driving back and forth between two sites. The flow of goods





18-PERSON TEAM

5

Of course the technology is continuously being monitored. Gabriele Husnik manages the logistics center on-site. Joachim Höhler, director of Supply Chain Operations at Fresenius Medical Care, keeps an eye on the processes from the Group's headquarters in Bad Homburg.

6

On their way into the warehouse, the goods have to pass a quality check which functions in a similar way to an airport security check. A laser scans the pallet for damage of any kind. Only if there are no faults the goods can continue its journey on the conveyor belt.





Around 20% of outgoing goods come from small-scale order picking. These are units that are individually compiled for each order and delivered to clinics or directly to the patients' home. Unlike full-pallet processing, the work is literally in the hands of the employees. The products intended for small-scale order picking wait to be processed in precisely labeled cartons.

On her headset, this order picker is being given instructions by the system which products to put into the customer order. This procedure is called "pick by voice". Compared to the conventional procedure using pick lists, this method is less susceptible to errors and order pickers have their hands free at all times.

Up to 8,000 blue boxes are ready for storing the products in order picking. The boxes are weighed at the end to find out whether they are correctly loaded. Each box has a specific target weight – if it is too light, something is missing, and if it is too heavy, there is too much in it.

The system knows exactly which boxes contain the products required for a certain picking order. The storage and retrieval machine searches for them automatically and places them on the conveyor belt. They are now on their way to outgoing goods.

Another order picker is already waiting in what looks like an airport baggage claim. She assembles the requested package from the boxes. A screen shows her what needs to go in. Then she enters what she has removed from the boxes so that the inventory is constantly up-to-date. In this way, she checks, sorts and packs up to 100 packages per day.

could be organized more effectively and efficiently, allowing the Company to react more flexibly to the ever-changing market conditions. All that would be good for the Company, and even better for its patients. After all, it was not just a matter of distributing books or CDs, but products that could save lives. For Joachim Höhler, however, it is important that patients remain unaware of the enormous effort behind the scenes that goes into providing perfect care. "We want our patients to concentrate entirely on their treatment."

The search for a suitable location for the warehouse did not take long. Whereas local residents saw only a meadow beyond the sign for Biebesheim, Höhler and his staff recognized its advantages: its proximity to the Company's headquarters, to Frankfurt airport, to the inland port at Gernsheim and to important road connections. The new logistics center was put up in just 14 months, a huge achievement during normal business operations. Höhler calls it "open heart surgery". In January 2009, Gabriele Husnik moved in together with her 18 colleagues as well as 120 of the warehouse services provider's employees. Shortly afterwards, the first pallets arrived, mainly from the Company's own production plant in St. Wendel in Saarland, Germany. Husnik will never forget how it felt when the first goods left the warehouse on their journey into the world: "It was simply indescribable." Now, 2,400 packaged goods leave the warehouse each day. These can be full pallets, rolling containers or even single boxes. Dialysis solutions, bloodline systems, dry concentrates and dialyzers are most frequently dispatched – more than 40 million of the latter in the past year alone.

At first glance, the numbers and the technology at the new site are most striking. The logistics center covers 28,500 square meters, the area of three soccer fields. The high-bay warehouse occupies most of this space. Inside, it's an amazing sight: A sea of boxes stretches as far as the eye can see, divided into countless "channels" with walls 40 meters high. The hall encompasses 411,000 cubic meters; if it were filled with water, it could supply the entire population of Berlin for one day. Up to 77,000 full pallets are stored here. They are sorted by massive, fully automated storage and retrieval units, which whizz up and down on tracks, one to each channel. As if steered by a ghostly hand, they stack pallets on one shelf and pick up others two stories further down. It sounds like a freight depot where someone has pushed the fast-forward button. Up to 4,000 pallets are moved in this terminal every day.

All other procedures are also largely automatic. This meant that it was possible to design the complete materials handling system to meet the peak demand anticipated in the next years. All batch and small-scale order picking operations use IT and barcode systems – a major advantage compared to the warehouse in Darmstadt, where most processes were controlled manually. Thanks to the technology, everything can be done faster while eliminating errors and reducing cost.

3,368
STORED PRODUCTS





12

77,000 FULL PALLETES

12

In full-pallet handling, the dimensions are completely different. The tall, heavy full pallets are waiting to be dispatched to warehouses in other countries or to a distribution partner. The high-bay warehouse can hold up to 77,000 full pallets. Here, the machines do all the work. Storage and retrieval units whizz along the channels, picking up pallets and releasing them again.

411,000 m³ OF SPACE

13

Full pallets and individually assembled parcels wait in the exit hall to leave the warehouse again.

14

The attached barcode indicates whether the pallet is just going to Frankfurt or as far as China. It also ensures that no units end up in the wrong truck. The employee loading the truck scans the code on each pallet. If the code shows a discrepancy, this is indicated immediately and the loading process interrupted.

15

When loading containers that are transported by truck to the port, great care must be taken to arrange the units so that they do not move about at sea even in heavy swells. After all, these are sensitive products which can save lives.

16

The truck is correctly and fully loaded. The goods are dispatched from here all over the world. The day is over, but in Biebesheim Logistics Center the next truck has already docked for unloading and the flow of goods starts all over again.





But the massive warehouse with its high-tech facilities would be nothing without the people who use the technology to ensure that the life-saving products reach patients on time. People like Heidi Sippel, who works in order picking, where she sorts, checks and packs about 100 packages a day, and is full of enthusiasm about her work. Or the 18-strong Fresenius Medical Care team that coordinates all the activities in the warehouse, ensures that heavy trucks do not have to queue up in front of the warehouse doors, and struggles through the complicated customs regulations of the destination countries.

"I'm a logistics person to the core," says Husnik. Nothing escapes her attention in the distribution center. When she notices a slightly wet pallet, she immediately points it out to the warehouse staff. The conveyor is stopped and the pallet dried again. It is essential that everyone here works conscientiously; precision counts. From warehouse workers to the manager, everyone knows that an emergency can happen at any time. "Everyone identifies 100% with their job, otherwise we would not be able to cope with the new challenges we face every day," says Husnik.

The girl from Bordeaux has survived. Her parents sent a letter thanking the Biebesheim team for their fast response. "There's no better motivation than that."



WE HELP YOU ON THE WAY TO YOUR DREAM VACATION!

Chiara Frattini, Sales and Marketing Manager of Holiday Dialysis International (HDI), tells us why a holiday can make all the difference in the life of a dialysis patient and how she can help them leave all their worries behind.

Everybody needs a break from time to time.

But why is it especially important for dialysis patients to be able to go on holiday?

Dialysis patients spend approximately three to five hours a day in the dialysis clinic, three days a week. The opportunity to go abroad, explore a new environment, breathe in different air, all may be viewed invaluable when it comes to improving patients' quality of life. With our help, they may be able to change their whole outlook: They can go to places they never thought they would go to or see again. But this is only possible if patients can expect to receive treatment that is of the same or similar quality as it is at home.

HDI is a service offered by Fresenius Medical Care to help dialysis patients go on holiday.

"A travel agency for dialysis patients" – is that a fair description?

Not quite. We are not licensed to act as a travel agency, so we can't sell plane tickets or all-inclusive holidays. Our first priority is booking dialysis sessions. However, we work together with travel agencies and can help with transport and accommodation if a patient asks for it.

Why should dialysis patients contact you before planning a holiday?

When you go on holiday, you want to be able to relax. Normally, that's not easy for dialysis patients, because they always have to think about where and how to get treatment. We want to lift that burden off their shoulders by supporting them in everything related to their treatment. Once we have confirmed their therapy sessions, everything will go as planned. They don't have to think about this aspect of their holiday anymore. We are committed to arranging for high-quality dialysis with qualified renal staff who will look after their specific needs. In this way, they can focus on what they should on holiday: broadening their horizons and having fun away from their usual surroundings.

Chiara Frattini and HDI help more than 1,000 patients each year to go on their dream holiday: Following in van Gogh's footsteps in Holland, taking a cruise along the Spanish coast or discovering the vibrant culture of the Philippines are just some of the possibilities.

Name **Koichi Narita**
Date of birth **February 17, 1941**
Home **Takarazuka City/Japan**
Start of dialysis **February 13, 1997**
Clinic **Suzawa Clinic/Osaka City/Japan**



Holiday destination **The Netherlands/Belgium**
Holiday duration **May 10–22, 2011**
Trips **Amsterdam/Keukenhof/Leiden/Haag**
Antwerp/Brugge/Gent/Brussels

Name **Andrea Costa**
Date of birth **April 23, 1966**
Home **Ravenna/Italy**
Start of dialysis **October 29, 2009**
Clinic **Ospedale Domus Nova/Ravenna/Italy**



Holiday destination **Spain/Portugal**
Holiday duration **September 1–12, 2011**
Shore leaves **Vigo/Lisbon/Valencia/Barcelona**

You also assist patients on business trips.

Yes. Most people who receive dialysis treatment have already retired, but a growing number of patients are in the middle of their career. Business trips are often an essential part of their work. In this case, being able to go abroad without any restrictions is not only a matter of improving their quality of life, but of enabling them to carry on a normal life. If they can't go away on business, they simply can't perform their job as they would like to. For young people, not being able to travel freely can be a major obstacle to their chosen career.

Does organizing business trips present a special challenge?

People on business trips have a tight schedule and fixed appointments. We have to book the dialysis sessions around that. On the other hand, local dialysis units have their own patients and their staff work in shifts which can't be changed at short notice. Thanks to our excellent relations with the units, especially Fresenius Medical Care's clinics, we are nevertheless nearly always able to meet business travelers needs.

What does it take to achieve that, apart from booking the appointments?

We have to take all kinds of things into consideration. For example, we take care of all the necessary correspondence. We send patients a form in which they describe in detail the kind of treatment they usually receive, what diet they're on, what drugs they need, whether they suffer from concomitant diseases and so on. We provide patients with all the contact details and everything else they will likely need about the prospective unit. All they have to do is arrive at the unit at the agreed time.

You claim that you cater for dialysis patients in "every corner of the world".

How do you manage that?

It may sound incredible, but it isn't so difficult really. I would say it is possible for most of all destinations. We have cooperation agreements with dialysis units nearly all over the world. This is mainly due to our partnership with Fresenius Medical Care, as they run clinics in all five continents. We've booked appointments in all kinds of places, for example in the Canadian forest or the African desert.

One main concern for dialysis patients is their safety.

How do you assess the safety of a unit, for instance in the African desert?

I know most of the units we work with, either personally or through patients' reports. If I don't, I always get in contact with our agents. What is the unit like, do they use modern equipment, what are the hygienic standards, and how good is the water quality? By the way, the dialysis unit in Mombasa is run by Fresenius Medical Care, so I can promise you that it's as safe as a Fresenius Medical Care unit in any developing country.

Does it always have to be a Fresenius Medical Care clinic?

No, but they will always be our first choice. Simply because we know that all their units have to meet their own high standards of care. Our next choice would be their customers, because they use Fresenius Medical Care machines and disposables. If both are not available, we would suggest other providers. We then ask the patients afterwards how satisfied they were with the quality of the unit, so we can decide if we can recommend it again in future.

How do patients respond to the program?

We can see that demand is growing. Over the last five years, the number of patients taking part has risen significantly. Now, over 1,000 patients each year plan their holidays with us. We're conducting a successful marketing campaign in all Fresenius Medical Care dialysis centers and their affiliates as well as at nephrologists' congresses. But most of our growth comes from word of mouth. People tell us that the opportunity to go on holiday really does change their life.

That sounds like a good basis for further expansion.

Yes, that's something we're doing actively. We've just reached an agreement with a cruise line and have taken on a unit in Mauritius. These are two more steps to help ensure that being a dialysis patient does not limit your choice of where you can go.

Name **Daniel Gallego Zurro**
Date of birth **September 5, 1972**
Home **Ibiza/Spain**
Start of dialysis **May 22, 1995**
Clinic **Hospital Can Misses/Ibiza/Spain**



Holiday destination **Hong Kong/Philippines**
Holiday duration **May 19, – June 6, 2011**
Trips **Lantau Island**

Thank you



WE WOULD LIKE TO THANK OUR PATIENTS, PARTNERS AND SHAREHOLDERS FOR THEIR CON- FIDENCE IN OUR COMPANY AND OUR EMPLOYEES FOR THEIR DEDICATION AND COMMITMENT IN THE PAST YEAR.

In 2011, our employees once again cooperated successfully with the Company's partners to boost the quality of life of our patients all over the world.

Your Fresenius Medical Care Team

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