WHAT REALLY MATTERS

FRESENIUS MEDICAL CARE

MAGAZINE 2019
We always put our patients first. We develop high-quality dialysis products and services for one single purpose: to continuously improve treatment for people with kidney disease and enhance their quality of life.

An important prerequisite for this is listening. Because we want to be able to give considered responses to all the important questions our patients ask us. Together we focus on WHAT REALLY MATTERS.

For Our Patients

“How do I stay in charge?”

ANVIL NELSON JR. pursues a full and busy life that revolves around his personal schedule, and not around treatment. Home hemodialysis allows him to stay active and mobile.

“How can we offer our patients the best possible treatment?”

The Global Medical Office opens up promising new opportunities to transform health care. LEN USVYAT and his team are eager to use them.

“How can we improve and speed up medical decisions?”

For DR. YAMILLET RAMOS, digital progress means more time for patients. The “Doctor App” allows her to give patients advice and information, and tailor their treatment individually from any location.

“How do I ask someone to help save a life?”

For Clinical manager BARBARA MILLER, digital progress means more time for patients. The “Doctor App” allows her to give patients advice and information, and tailor their treatment individually from any location.

“How do we gain greater recognition for nursing care?”

Every day, OUR NURSES make a significant contribution to the well-being of our patients. We are very proud of these achievements and regularly show our appreciation on “International Nurses Day”.

“How do I stay in charge?”

SIRKKA-LIISA ALÉN feels in good hands at her clinic in Helsinki. A result and gratifying recognition of the team effort during the last ten years.
Fresenius Medical Care is the world’s leading provider of dialysis products and services. We care for people with chronic kidney failure, of whom around 3.5 million worldwide depend on dialysis treatment. Thanks to our decades of experience in dialysis, our innovative research and our value-based care approach, we can help them to enjoy the very best quality of life.

We care for more than 345,000 dialysis patients. Their well-being always comes first. Our top priority is to offer them the best possible treatment. To this end, our portfolio encompasses a comprehensive range of high-quality health care products and services as well as various dialysis treatment options for both in-center and home dialysis that are individually tailored to our patients’ needs.

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Anvil Nelson Jr. is a man in perpetual motion. The 63-year-old runs his own chemical manufacturing company in the city of Chattanooga, a two-and-a-half-hour commute from his hometown of Nashville, Tennessee. He is a member of the board of the local Nashville rescue mission, which provides food, lodging, and training for people in need. He also sits on the board of the Tennessee Kidney Foundation that offers screenings, education, and help with transportation for patients with renal disease.

What is more, Nelson has held a leadership role at his local church for more than two decades. He also officiates at track and field competitions for state tournaments and at college meets. Last but not least, Nelson wants to spend quality time with his wife and two grown children who live nearby. After ticking off that comprehensive list, he concludes with a chuckle: “I have a pretty busy life. My family actually thinks I’m too busy.”

So busy, in fact, that Nelson admits he almost left out one crucial detail that has become part of his weekly routine. Since losing both kidneys to tumors, he has to undergo dialysis and uses a portable home hemodialysis machine by NxStage from Fresenius Medical Care, to filter his blood. “Dialysis has changed my life, for sure, but not my outlook on life and my ability to stay mobile. I wouldn’t even know I was ill if I didn’t have to take a pause, sit down and do dialysis several times a week,” he says.

It is this message of optimism and empowerment that Nelson wants to spread far and wide and encourage and motivate other dialysis patients to research their best treatment options, so they can stay as independent and active as possible. “Some people feel like their life is over when they start dialysis, but not me!” he says. “I’ve found that it’s really just a matter of making a mental adjustment to be able to keep on living your life and stay mobile. That’s a blessing.”

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This can-do attitude has been a hallmark of Nelson’s journey as a dialysis patient for the last two decades. Back in 2003, he was diagnosed with a non-malignant tumor on his right kidney and had it removed. During his regular follow-up visits with his nephrologist, it became apparent that the function of his remaining left kidney was gradually decreasing. It reached a critical point in the summer of 2017, prompting Nelson to put his name on the national kidney transplant waiting list to find a donor organ.

During a check-up in the summer of 2017 his physician discovered two malignant tumors on his left kidney. “Over the past 14 years, I had kept my appointments with the doctor four times a year, but I hadn’t faced any major changes to my lifestyle. Even when I got the news that the cancer had got hold of my other kidney, it just made me want to get proactive,” Nelson recalls. “I told the doctor right there and then, ‘Let’s rip the cancer out as quickly as possible.’ Dialysis would change my life, but beating cancer was the bigger challenge.”

While he was still recovering from surgery, Nelson was already devising a plan to get his life back on track. Initially, he had to travel to a dialysis center three times a week for his treatment. “It was very rigorous, because you had to schedule it and stay there for a few hours. I booked my treatments for 5 a.m. on Mondays, Wednesdays and Fridays, so I could use the rest of the day, but that meant getting up around 4 o’clock in the morning to drive there.” In spite of his original expectations, Nelson found that the treatment schedule interfered too much with his many other obligations. “After getting treatment, you need time to recover. Often, I couldn’t even manage to drive to work in Chattanooga on Mondays after dialysis because I had to rest.” So, Nelson told his doctor he needed to explore his options. “I wanted to keep on living my life and not be tied to a center. That’s why I initially considered peritoneal dialysis as it was the only way I could continue working as usual.”

NxStage Medical is one of the newest members of the Fresenius Medical Care family; the acquisition was closed in February 2019. Founded in 1998, NxStage is based in the Boston, Massachusetts area. It develops, produces, and markets a portfolio of medical devices for use in home dialysis and critical care settings.

The acquisition gives renal patients more options to keep their independence and enjoy a better quality of life through home dialysis. As such, NxStage joining forces with Fresenius Medical Care is an important milestone in enhancing patients’ choice of their preferred dialysis treatment options. It also enables Fresenius Medical Care to leverage its manufacturing, supply chain, and marketing competencies across the dialysis products, services and Care Coordination businesses in a less labor- and capital-intensive care setting.

ADVANTAGES OF HOME DIALYSIS:
- Therapy in a familiar environment
- High flexibility due to freely selectable treatment times
- Time savings by avoiding trips to and from a dialysis center
- Dialysis is easier to integrate into everyday life
With peritoneal dialysis, the body’s abdominal lining, or peritoneum, is used to filter the blood inside the body. The treatment is administered by patients themselves at home or at work several times a day or automatically during the night. That treatment method appealed to Nelson, he recalls, because it promised him maximum independence and freedom of movement, even though it meant undergoing dialysis seven days a week. “But then,” he adds, “I heard about home hemodialysis!”

Nelson found the System One home dialysis machine made by NxStage from Fresenius Medical Care and watched tutorials showing how it worked. “It was an amazing discovery, and I wanted to find out even more.” Shortly afterwards, he was sitting in his treatment chair at the local center, when his phone rang. It was an expert from the NxStage team, and Nelson ended up talking to her for an hour and peppering her with detailed questions. “I decided to go for it and asked my doctor to sign me up for the required training sessions right away.”

Within a week and because his wife provided him with ongoing and passionate support, Nelson was able to start his training on how to use the System One. This involved instruction by experts at a dialysis center, followed by supervised use. Very quickly, he felt comfortable enough to prepare and connect the machine by himself. “I told the nurse to watch and only to step in if I messed up. I’m a take-charge kind of guy, so if somebody has to stick needles in me, I might as well do it myself.”

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Shortly after starting the new treatment, Nelson was able to plan his dialysis treatment schedule by himself. “It gives me a lot of flexibility. I usually choose to do treatment in the afternoon or early evening after work. That means I don’t have to dress up and leave the house.”

INTEGRATION INTO DAILY LIFE

Nelson’s wife Deniece or one of his children always try to make time to be available as his care partner – a routine the family has maintained even as Nelson has continued tending to affairs at his company in Chattanooga. On Mondays, he drives to Chattanooga to be on-site at his company and is joined by his wife the next day at the apartment he rents there. “She is always there for me, gets the machine ready and makes us something to eat while I finish up work.” As a result of the home dialysis training, his wife has also adjusted her schedule to make time as his care partner. That means preparing the machine on Thursdays and Fridays when he is back at home in Nashville. “I don’t want to make it sound too rosy,” Nelson says, “but home dialysis is a great opportunity. I can really get on with my life, run my business, and even travel.”

When Nelson is on the road, he sometimes has the supplies shipped to the hotel where he is staying and just brings the machine with him. “It makes me feel like I’m in charge of things and gives me back some precious time with my family.” Like spending Thanksgiving with his brother who lives six hours away in Illinois.
In the fall of 2017, not long after his surgery, Nelson drove up to his brother’s home on a Wednesday and almost had to leave the next day, right after the traditional turkey dinner, in order to be home in time for his 5 am appointment on Friday morning. But fortunately, he was able to complete his training with the System One device shortly beforehand and could stay as long as he wanted. “Now I can just go and see him whenever I want,” he says with palpable joy in his voice.

**HOME DIALYSIS IN THE LONG TERM**

Many experts agree that home dialysis can provide better outcomes for patients and therefore could be the best treatment option for many patients. In reality, however, only about 12 percent of patients worldwide currently receive home dialysis. Fresenius Medical Care has pledged to significantly increase the percentage of patients choosing home therapies and announced in North America a record growth in home dialysis in the six months since the acquisition of NxStage. The shift is part of a larger transformation in care for chronically ill people.

Nelson has already planned his next move. He wants to receive additional training so that he can perform his home dialysis all by himself. There will still be safeguards in place, of course. The machine offers remote monitoring and the option to call a hotline with any questions. It also comes with an app and troubleshoot error codes to look up on a smartphone or tablet.

Yet in the end, Nelson admits, he cherishes the time he can spend with his children or his wife by his side while the portable device does its work. It is a welcome breather in his busy schedule. “Your family’s support is the most important thing you can have as a patient. But I don’t see why they should put their life on hold for me just in case I need them.”

**YOUR FAMILY’S SUPPORT IS THE MOST IMPORTANT THING YOU CAN HAVE AS A PATIENT.**

Anvil Nelson Jr.
Home hemodialysis patient
Tennessee, U.S.
In March 2019, Fresenius Medical Care established the Global Medical Office to enhance the Company’s activities in the area of patient-focused care. This global function marks an important milestone on the path to transforming health care worldwide based on our vertically integrated business model.

“How can we offer our patients the best possible treatment?”

Len Usvyat
Vice President
Applied Advanced Analytics
Fresenius Medical Care
Whenever Len Usvyat visits a dialysis clinic, he does not just see patients and clinic staff, he also sees data. The specific sounds of the dialysis ward, a patient’s latest blood count – almost every aspect of everyday clinic life can be converted into numeric fingerprints, as the qualified economist and Vice President of Applied Advanced Analytics at Fresenius Medical Care explains. He has turned the evaluation of data into his mission: to use the universal language of numbers to improve treatment for people with kidney disease. “I am enamored by the fact that behind every dataset is a patient with her or his own feelings and emotions, whose conditions we can positively impact,” says Usvyat.

Usvyat heads a diverse team of epidemiologists, computer scientists, engineers, and pharmacologists at Fresenius Medical Care. “The role of my team is to introduce innovative, data-based solutions to every corner of our organization,” he says. “We search for patterns in our data that we can translate into useful and practicable insights for medical staff.” Big data specialists use computer algorithms to describe and predict the course of kidney disease and change its direction for the better. The experts describe these three different approaches as descriptive, predictive and prescriptive analyses.

“WE WILL SEE THE EMERGENCE OF SMART TREATMENTS TAILED TO PATIENTS’ INDIVIDUAL NEEDS AND CHARACTERISTICS,” he adds. “It will be possible to develop customized treatments using not only existing data from clinical examinations, but also valuable real-time information from fitness trackers, dialysis machines, as well as other devices.”

Even today, Usvyat’s team routinely analyzes hundreds of data points to predict which patients are likely to need hospital treatment and which have a heightened risk of infection. Avoiding these events leads to an improvement in therapeutic outcomes and quality of life for patients, which is also beneficial for health care systems. But the data are not only useful for clinical forecasts, they also help in organizational matters: For example, traffic data can be used to improve route planning for clinic or home visits to patients, and the data analysts can use weather data to identify patients who are unlikely to attend their next dialysis appointment on account of adverse weather conditions in their area. Data on a patient’s living situation can also be used to establish whether home dialysis might be a reasonable treatment option for them.

INNOVATIVE STRENGTH BASED ON GLOBAL EXPERTISE.

“We will see the emergence of smart treatments tailored to patients’ individual needs and characteristics,” he adds. “It will be possible to develop customized treatments using not only existing data from clinical examinations, but also valuable real-time information from fitness trackers, dialysis machines, as well as other devices.”

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Fresenius Medical Care established the Global Medical Office in March 2019 to enhance cooperation and exchange medical knowledge throughout the Company and thus achieve high-quality outcomes for patients worldwide. By adding the Global Chief Medical Officer to the Management Board, Fresenius Medical Care is underlining its commitment to applying clinical science at an ever-higher level.
FRESENIUS MEDICAL CARE transforms patient care worldwide

How scientific innovations driven by Fresenius Medical Care have transformed care for chronic kidney disease and other chronic diseases around the world, leading to better health outcomes and providing patients with a future worth living.

In the early 1970s, dialysis took around 24 hours to perform and was very expensive due to the use of large synthetic membranes (Fig. 1). As a result, not all kidney patients were able to receive dialysis.

In 1983, the Company started producing synthetic polysulfone fiber membranes, offering tailored purification. These membranes set the quality standard for dialysis today.

Fresenius Medical Care operates more than 3,990 dialysis clinics in around 50 countries. As the market leader, the Company manufactures one in every two dialysis machines worldwide. “Kidney disease is a global epidemic that is placing a burden on health care systems around the world,” explains Maddux. “As a vertically integrated, globally active health care company, Fresenius Medical Care is ideally positioned to leverage and further develop the opportunities offered by interconnected data and innovative solutions worldwide.”

The case study team regularly publishes its key findings. In 2019, it also developed the first global framework that sets priorities for improving the quality and safety of patient care across regions. This constitutes a further step towards harmonizing and enhancing the quality of care worldwide for people with kidney disease in the long term.

However, global cooperation in the form of the ceo also presents challenges. “We have to work with widely diverse health care systems around the world,” says Usvyat. “In terms of big data, this means above all a highly complex situation with regard to the availability of data,” he adds. Health care data and demographic information are collected, structured, and organized differently in every region. Moreover, the team has to consider various legal requirements when working on cross-border projects.

But similar approaches are used in other regions too, working with data from North America. “We have to develop our strategies regionally differently in every region. Moreover, the team has to consider various legal requirements when working on cross-border projects.”

In addition, Usvyat is repeatedly confronted with controversial issues in the course of his work — such as the question whether computers will ever replace physicians and nurses. “Certainly not,” asserts the data specialist. “We will always need human expertise to ensure that the computer’s calculations make sense and are interpreted correctly.” Even back when his team was developing its mathematical models, they worked in close cooperation with physicians and clinic staff in order to better understand their needs. “We need to help them and give them a tool that allows them to do their job even better than before,” says Usvyat.

Usvyat believes that algorithms will become an increasingly natural part of health care in the future, and that we will gradually get used to that. But even he sees limits when it comes to the use of computer forecasts in everyday clinic life — like mortality calculations or correlations relating to gender or skin color. “We have to be extremely cautious and sensitive when dealing with ethically relevant issues like these,” says Usvyat. “But one thing is certain: If we use the new tools judiciously, we can improve our patients’ quality of life with lasting effect.”
Artificial intelligence (AI) has made huge progress in the past decade. Thanks to smart algorithms, it is now possible to develop programs that analyze large volumes of data to support medical decisions. This requires datasets that are as comprehensive and meaningful as possible. Fresenius Medical Care paved the way for this change many years ago, and now its foresight is paying off – and enabling the development of new applications.

“How can we improve and speed up medical decisions?”
Terassa, just outside Barcelona, is a major industrial city with a population of more than 200,000, making it one of the biggest cities in Catalonia, Spain. Since 2014, it has also been home to a modern Fresenius Medical Care dialysis clinic with a focus on sustainability. The facility is partially solar-powered, and residual water is collected for watering the gardens. Bright rooms with names like “Sala Modernisme” play host to a state-of-the-art dialysis technology and let patients enjoy a visually pleasing environment during their treatment.

Some of the walls are decorated in bright blue feature hand-painted scenes of the region and the city, giving the rooms a friendly, almost private atmosphere. Other walls are covered in heart-shaped post-its with thank-you messages and selfies of patients and dialysis nurses. But probably the most interesting detail is the “Sala Modernisme” right now is the object Dr. Yamilet Ramos is holding in her hand: a silver-colored tablet computer.

**MAKING TREATMENT EASIER**

The physician, who is originally from Cuba, is rarely seen without this personal accessory when she is out and about in the clinic. The tablet runs a piece of software that Ramos can no longer imagine being without: the “Doctor App,” developed by Fresenius Medical Care. The app can make it considerably easier for physicians to treat dialysis patients.

The Doctor App is fantastic. As much as anything, it changes the way I can deal with individual patients. It means I have more time for them when doing my rounds. I can go into their cases in greater detail and answer their questions right away. All in all, the app gives me more scope for adjusting patients’ treatment to reflect their individual needs. In my view, technology makes the physician-patient relationship more personal.

**HOW DO YOU SUPPORT THE TREATMENT OF DIALYSIS PATIENTS AS A PHYSICIAN?**

**DR. RAMOS:** Dialysis treatment is a special time for patients, and they often feel a strong need to talk to a physician about it. When patients first arrive at the clinic, I find out how they are feeling before treatment begins. After dialysis, I check their values and try to talk to them again. Another important aspect is that I need to be on the spot immediately in the event of any problems with dialysis.

**HOW MUCH TIME DO YOU HAVE TO MAKE A DECISION IN SUCH CASES?**

**DR. RAMOS:** When a patient has an acute problem during treatment, like an allergic reaction, I sometimes have only very little time in which to make a decision that could be a matter of life or death.

**HOW DOES THE APP HELP YOU TO MAKE THE RIGHT DECISION IN A SITUATION LIKE THIS?**

**DR. RAMOS:** I used to have to go to my office to check the patient’s values on a computer before coming back again. Obviously, that all takes time. The tablet and the app mean I have all of the necessary parameters at hand and can act immediately.

**HAS THE APP CHANGED YOUR DAY-TO-DAY WORK A GREAT DEAL?**

**DR. RAMOS:** Yes, the app is fantastic. As much as anything, it changes the way I can deal with individual patients. It means I have more time for them when doing my rounds. I can go into their cases in greater detail and answer their questions right away. All in all, the app gives me more scope for adjusting patients’ treatment to reflect their individual needs. In my view, technology makes the physician-patient relationship more personal.

**“The app gives me more time for patients and is a great help in my work,”** says Ramos. Digital specialists from Fresenius Medical Care have spent the last two years developing it and have put it to the test at 30 dialysis clinics in Spain. It allows physicians at the clinic to access the data and current values of each and every patient in real time. This alone is a great bonus for Ramos, as it allows her to give patients advice and information, and tailor their treatment individually from any location. “Otherwise I would have to go to my office or use the nursing staff’s computer to take a look at the current values.”

Now the 49-year-old, who has worked for Fresenius Medical Care since 2009, has all of the information at her fingertips. As well as saving time and effort, this means I can make quicker and better decisions to deal with acute problems or, in extreme circumstances, even save their life,” explains Ramos.

**ALGORITHMS HELP PHYSICIANS**

The Doctor App also has a second, even more far-reaching purpose: It is equipped with artificial intelligence (AI) that assists physicians in making important decisions. For decades, AI was something that belonged more in the realm of science fiction. But there has been huge progress in this area in the past decade or so. Data specialists have succeeded in developing self-learning systems, i.e., systems that learn new skills autonomously — providing they are fed sufficient quantities of corresponding data.
Known as machine learning, this technology has triggered a revolution in research and has long become part of everyday life. Whenever your navigation software suggests the quickest route or your smartphone tries to understand a voice command, this is thanks to AI.

One example of the possibilities offered by AI is the so-called anemia algorithm, which can be used to treat renal anemia during hemodialysis. It is not always easy for physicians to determine whether patients in this case should be given iron alone, or with erythropoietin – i.e., stimulating substances that boost the production of red blood cells – and what the exact dosage should be. The algorithm can support this decision.

Niklas Best, Director Digital Ecosystem at Fresenius Medical Care, explains the importance of these digital decision aids: “We are talking about algorithms that can evaluate a number of parameters that a human would find almost impossible to juggle in their head.”

A WEALTH OF AVAILABLE DATA

Best was involved in the development of the Doctor App right from the start. “Our original aim was to make the anemia algorithm available to physicians in a usable form,” the digital expert says. But during the development process, his team realized there were many more things the app could offer in terms of making life easier for nephrologists. And so the Doctor App became a comprehensive application that uses all of the important parameters to help physicians make the right treatment decisions at the patient’s bedside.

The data for the Doctor App is supplied by the EuCID system, a technical database used by Fresenius Medical Care to help nephrology institutions continuously ensure and improve the quality of their treatment. The system – which is consequently a technological requirement for the app – collects and evaluates defined indicators. “A long time ago, Fresenius Medical Care took the strategic decision to build this system within the Care Value e-services department. The result is an incredible wealth of data that we can use to our benefit,” Best explains. The Fresenius Medical Care AI Group in the EMEA region uses the EuCID data to train algorithms. “You could even say that we are among the world leaders when it comes to the use of AI in dialysis. We can certainly compare with software groups in Silicon Valley,” Best adds.

Digitization opens up entirely new perspectives for treating patients. The innovations associated with it help to improve the effectiveness of medical treatment, giving physicians better information for making decisions, and patients more information about their treatment.

CENTRO DE DIÁLISIS DE TERRASSA

It generates solar energy, recycles the gray water that accrues and boars 30 state-of-the-art dialysis units: The dialysis center in the Spanish city of Terrassa that was opened in 2014 blends functionality and sustainability.

A CLOSER LOOK AT OUR DIGITAL INNOVATIONS: Tailored to our range of treatment options

“My Companion” Patient App

The app gives patients at Fresenius Medical Care clinics an overview of their treatment as well as the drugs prescribed to them and their lab results.

“The Hub” Connected Health Platform

The platform allows patients, care teams and physicians to better collaborate and monitor patient treatments. This supports our efforts to accelerate the introduction of home treatments while ensuring that our patients remain in close contact with their care teams.

“Doctor App” for Nephrologists

The app integrates all of the important parameters for dialysis treatment, allowing our physicians to adjust treatment individually and giving them more time for their patients.

“WE ARE IN THE PROCESS OF DEVELOPING TOOLS AND SERVICES TO SUPPORT ALL PATIENT GROUPS WITH CHRONIC KIDNEY FAILURE.”

Niklas Best
Director Digital Ecosystem
Fresenius Medical Care

The Doctor App on a tablet makes existing data portable. Clinicians can immediately see all the important parameters and answer questions or solve problems at the patient’s bedside, giving them more time for their patients.
DOCTOR APP

The application developed by Fresenius Medical Care runs on a tablet computer that physicians can carry with them on their rounds in the clinic. The app contains all ongoing treatments at any point in time and a list of patients. All of a dialysis patient’s important parameters are clearly visible so that physicians can assess them quickly and make adjustments to medication at the patient’s bedside. Critical values are also displayed. AI helps physicians when making difficult treatment decisions.

“The Doctor App is a core element of our digital strategy,” Best continues, “but many other kinds of other digital applications are conceivable or already available. For example, we are in the process of developing tools and services to support all patient groups with chronic kidney failure, whether they receive dialysis at home or in a clinic.” The “My Companion” smartphone app allows dialysis patients at Fresenius Medical Care clinics to access their current treatment data, such as lab results or drug information. It also helps patients with their treatment and with adapting their lifestyle.

Another area for future developments is support for home dialysis patients. Telemonitoring is the keyword: The connected health platform “TheHub” by Fresenius Medical Care North America offers physicians real-time access to medical records from their device of choice and enables home therapy nurses to better care for their patients. Through daily monitoring and clinical decision support, the care team can catch potential issues earlier and intervene, giving home patients more confidence and personalized support.

INITIAL SKEPTICISM QUICKLY DISSIPATED

The use of digital technologies will alter the interactions between technology, physicians and patients in some areas. Physicians will have more time to spend on patient contact. And patients will be given more information and be more involved in their own treatment. Of course, new technologies are always eyed with suspicion at first. “But the initial skepticism toward the Doctor App quickly dissipated during the test phase. By the end, we were even getting exuberant responses when we turned up at the clinic,” Best reports.

Most physicians involved in the roll-out in Spain are now just as enthusiastic about the app as Ramos. Best has no doubt that the app has made work a lot easier for physicians: “Many have noticed that they can finally do what made them want to become a physician in the first place – namely treating patients.” He believes that digitization will continue to find its way into medical technology. “In the future, almost every medical decision will be taken with the aid of algorithms, simply because the risk is too great otherwise,” Best is convinced. “This is just the beginning,” he predicts.

Ramos claims that the new app has changed her daily routine in the dialysis clinic considerably. She can no longer imagine being without this mobile digital support.

Artificial intelligence allows machines to perform certain cognitive tasks just as well as a human being. Machine learning based on large amounts of data has made enormous progress in the past ten years.
Fresenius Medical Care can now also offer dialysis services in Finland. We opened two dialysis centers in Malmi and Pitäjänmäki in an official ceremony on April 29, 2019. These centers currently offer hemodialysis treatment to nearly 200 patients from the Helsinki area. By providing dialysis treatment, Fresenius Medical Care is creating a basis not only for the Company’s future growth, but also for further expanding the product business in Finland.

“Who ensures I get the very best care?”

Sirkka-Liisa Alén
Dialysis patient from Helsinki, Finland
Sirkka-Liisa Alén has experienced a lot in her life. After a teaching career, she went on to hold several positions in the health care sector. But that was a long time ago. The 92-year-old has been retired for over three decades now. For the past two and a half years, she has relied on dialysis treatment. That is why she makes the journey herself by taxi to the Pitäjänmäki dialysis center in Helsinki several times a week, says hello to the dialysis nurses, and sets about getting her own treatment ready.

Then she makes herself comfortable on bed 31 – it is always the same one – and waits for a nurse to connect her to the dialysis machine. A tablet computer is attached to a little table in front of her. “I always watch the morning show on TV,” says Alén. “They broadcast reports from all over the country.” Having lived and worked in many towns in Finland, she takes an active interest in what is happening everywhere.

Having reached old age, however, Alén decided to move back to her home city of Helsinki. At 92, she is one of the oldest patients at the Pitäjänmäki dialysis center, which opened just recently in spring 2019. “The treatment here is good, but afterwards, I feel exhausted,” she admits. Does she find that dialysis puts a big strain on her? She has to think for a while before answering, clearly not wanting to simply say yes. “Well, I’m the eldest of three sisters, and compared to the other two I’m still in the best health,” is her eventual reply.

“I’M THE ELDEST OF THREE SISTERS, AND COMPARED TO THE OTHER TWO I’M STILL IN THE BEST HEALTH.”

Sirkka-Liisa Alén
Dialysis patient from Helsinki, Finland
A HEALTH CARE SYSTEM FACING NEW CHALLENGES

Alén is not one to complain. She still lives alone and leads an independent life. Her family is a very important part of it. One of her sisters lives a stone’s throw away from her home. “On the days when I go to the center for my dialysis session, she cooks for me and we meet up for lunch.” Until a few years ago, she was a passionate traveler. One of her two granddaughters lives in Melbourne, Australia. “I’ve been to Australia four times, and to New Zealand once,” she recalls. Even now, she loves being outdoors in nature and going on walks in the forest.

Today, Alén has to spend around four hours at the center. A dialysis nurse stays in the room throughout, and is on hand for patients if they want anything or need help. Whenever the 92-year-old is there, Sirkku Sayeed-Väisänen comes to her bedside to see her. They both look forward to having the chance to talk to each other for a while. However, Sayeed-Väisänen does not have time to stay for long. As Head Nurse, she has responsibility for the whole center.

Anyone who lives in a vast country almost all of which is very sparsely populated and has to put up with long, dark winters is probably likely to develop a completely distinct way of life that focuses above all on independence, responsibility and discipline. These characteristics are also the cornerstones of Finland’s health care system. Nurses here are generally entrusted with more responsibility than is common in other countries. But access to health care services is also much more strictly regulated. The result is a relatively efficient health care system with a sound cost structure.

Finland is regarded as a role model within Europe in many areas of society. One example is education, where the country has attracted attention due to its excellent results in performance comparisons such as the PISA test. The Finnish health care system is held in similarly high esteem. For many years, European health care experts headed northwards to find out why it is so efficient. They, too, returned with the message that the country on the northeastern edge of the European Union is a prosperous country, a role model, a modern society that also stands out due to the fact that it embraces technological advances.

For some time, however, it has become apparent that the future is not as rosy as it would at first seem: Finland is the fastest-aging society in Europe. The birth rate is in constant decline, while people are getting ever older – the demographic gap is widening here as it is in many industrialized nations. Yet this development threatens to hit the nation of 5.5 million people in northeast Europe especially hard.

Dark clouds are gathering over the Finnish health care system and its hitherto impeccable cost structure. Only around 9.2 percent of gross domestic product was channeled into the health care system in 2018 – too little to be able to cope with the many challenges ahead. By way of comparison, the figure for Germany is around 12 percent.

Nearly all services are performed in Finland by government institutions that are concentrated in health centers and clinics. Privately run facilities such as the Fresenius Medical Care centers are very much the exception. “Our two dialysis centers in Helsinki are actually the only private facilities of their kind in Finland,” says Minna Väänänen, Sales Director of Fresenius Medical Care Finland.

FROM PRODUCT SUPPLIER TO INNOVATION DRIVER

The 24-strong team at the Finnish branch was therefore all the more proud to be awarded the contract for the two dialysis centers in 2018 by the Hospital District of Helsinki and Uusimaa (HUS), one of the largest administrative entities in the Finnish health care system.
She started her career in her Fresenius Medical Care Finland as a responsible pharmacist at HUS. Minna Väänänen is also the biggest challenges was finding sufficient nurses in Finland. Yet this target was achieved, too.

This success story goes back ten years, Väänänen explains. “At the time, we had built up a totally new, multidisciplinary team,” recalls the Sales Director. She is practically a living embodiment of the new culture of diversity at Fresenius Medical Care Finland, having studied several subjects including pharmacy and health economics.

Marja Stenborg also came on board back then as part of the management team. The nephrologist contributes her medical expertise to turn employees in both product sales and patient care into experts in their field by teaching them specialist medical knowledge. “Our employees are often the first to bring the latest findings and innovative products into hospitals,” says Stenborg.

This has helped to gradually shape the Company’s image as an innovation driver in Finland. In the meantime, Fresenius Medical Care is no longer regarded as just a supplier of machines and materials, but is considered a partner when it comes to improving dialysis care in Finland. “I would say that our joint efforts in the last ten years were instrumental in winning the contract for the two centers,” says Stenborg. “The nurses even counted on us opening the two facilities within just six months,” adds Väänänen. “We have no benchmark in Finland for how long it usually takes to complete a job of this kind, but we managed it – thanks to the exceptional performance of the entire team.”

There is a great emphasis on teamwork at Fresenius Medical Care in Helsinki. Finding suitable premises in a specified area, converting them, and fitting out the resulting center with clinical equipment, all in an extremely short timeframe, requires total commitment. Between winning the contract in September 2018 and opening the centers in April 2019, the team worked flat out to complete the project. One of the biggest challenges was finding sufficient clinic staff, because there is a significant lack of nurses in Finland. Yet this target was achieved, too.

“Medical services should be used only when it is absolutely necessary.”

This provides us with a solid foundation for the future – one in which the Finnish health care system will have to be reformed in order to meet its challenges. The two centers are also a showcase in this respect, “As a way of demonstrating just what we can do,” says Stenborg. “We share new information, and train nurses and physicians.” One of the main goals is to help patients take more responsibility for their health. “This is an important issue here in Finland,” acknowledges the nephrologist. “Medical services should be used only when it is absolutely necessary.”

The inauguration of both centers demonstrates that Fresenius Medical Care has gained a reputation as a highly reliable player in the Finnish health care system. “We are the only private center operator,” Väänänen explains. “We currently stand at more than 60 percent in hemodialysis in the product sector, and at around 80 percent in the acute sector.” This means that the Company has successfully made the leap from product to service business.

HOME DIALYSIS TO CONTINUE TO GROW

This could be a real prospect for the future of Finnish health care. As growing numbers of people are moving from the countryside to urban agglomerations, and the aging population is taking its toll on the health care system, there is also an urgent need to find new kinds of treatment, also in the area of dialysis. The proportion of home dialysis patients in Finland is already at around 30 percent today, and could grow even further in the future, especially if patients are given even better information and advice about their options.

Teamwork is their motto: Siikku Sayers-Väänänen, Maarit Taskinen, Marja Stenborg, Minna Väänänen (from left to right).
“How do I ask someone to help save a life?”

As clinical manager at the Fresenius Medical Care dialysis center in Parsippany, New Jersey, Barbara Miller knew first-hand about the hopes and challenges renal patients face while waiting for a transplant. What she was not prepared for was the joy and gratitude she felt when she decided to become a living donor. The Fresenius Medical Care Foundation aims to encourage more people to help change lives in this way.
EMPOWERMENT PAVES THE WAY.

When her grandson Danny was born with kidney disease in January 2010, Barbara Miller’s work offering professional, yet compassionate care as a nurse for renal patients at her dialysis clinic suddenly took on a deeply personal meaning. Her grandson required around-the-clock care and spent the first five months of his life in a hospital before finally being allowed home.

The newborn’s ordeal inspired Miller, clinical manager at the Fresenius Medical Care dialysis center in Parsippany, New Jersey, to volunteer to be a living donor for her newest family member. “Watching Danny struggle was definitely the catalyst,” she remembers. After initial tests, it turned out that Miller’s sister, who is ten years younger, was better suited to give a kidney to the infant.

Danny had to wait until September 2012 when he was almost three to receive the transplant. “The kidney worked immediately. He did really well, started crawling and talking — things he hadn’t done before,” the 63-year-old nurse recalls, still visibly moved. She composes herself and adds: “I still get choked up thinking about how incredible it was to watch this little guy, who had gone through so much, get better.”

This experience and her almost two decades of working daily with renal patients inspired Miller to help others and become an altruistic donor for a stranger. In December 2013, she underwent surgery to donate a kidney to a mother of four she had never met before. “I wanted to give something back and share the good karma. People with dialysis struggle every day,” she says. “It’s not an easy life for them, even though they may not complain.” Miller also knew from her work that most renal patients silently wish for a transplant but are often too shy or even embarrassed to ask family members or friends, for fear of being turned down.

THE WAITING LIST KEEPS GROWING

Miller’s story shines a spotlight on the uncertainty and psychological burden that comes with waiting for a life-saving transplant. There are close to 100,000 patients in the U.S. who need a kidney transplant, and every ten minutes another person is added to the waiting list. While an estimated 20,000 people received a kidney transplant in 2018, only about 6,400 of them came from a living donor. And, depending on where someone lives, they could be on the waiting list for an average of three to nine years. These statistics could be greatly improved if more patients were empowered and trained on how to ask, and more people were educated and inspired to donate.

“WATCHING DANNY STRUGGLE WAS DEFINITELY THE CATALYST.”

Barbara Miller
Clinical Manager
Fresenius Medical Care
The Fresenius Medical Care Foundation was created to help the patients, families, and communities most greatly impacted by kidney disease. Today, it is focused on raising awareness of kidney disease and transplantation as a life-saving solution. The Foundation has embarked on two partnerships to inform, educate, and attract potential kidney donors, and help patients to find a donor who can save their lives.

**EASIER TESTING FOR POTENTIAL DONORS**

The first grant provided by the Foundation went to Donate Life America (DLA), a U.S. nonprofit organization committed to increasing organ donation, to build the first national, universal living donor registry, which is scheduled to go live in the U.S. in 2020. The registry is intended to be a hub for anyone interested in becoming a living donor. As such, it would augment the procedure currently used by transplant centers and hospital networks around the country, which require potential donors to take the time to drive to a chosen location for initial consultation and tests.

With the Foundation’s financial support, DLA will also create an easy-to-use home testing kit for potential living donors, which is expected to be released at the same time as the registry. Using a saliva sample similar to those already offered by ancestry research companies, the kit is designed to provide fast, consumer-friendly screening that will be distributed to patients for use by friends and family members. Once the test has been sent in, the results can be converted to a possible match efficiently and safely. The kit stands to greatly expand the pool of potential matches and cut the average wait time to receive a kidney. The kit and registry combined have the potential to double the number of living donors within a year, estimates Jessie Newman, Fresenius Medical Care North America’s Director of Community Relations.

**THE COURAGE TO ASK**

But to really make an impact, a second approach is also needed: empowering patients and families by giving them the right tools, information, and a healthy dose of self-confidence so they can share their story and find an organ donor. “I didn’t fully understand the barriers that patients faced when it comes to talking about their need for a kidney – even to a close friend,” says Newman. To ease that psychological burden, the Foundation has partnered with the National Kidney Foundation to significantly expand its “THE BIG ASK – THE BIG GIVE” in-person training around the country.

Miller thinks this educational push for both patients and potential donors is long overdue. “A lot of people would give a kidney if they only knew about the need. Even my patients are often reluctant to discuss the topic with their own family members,” she says, as she plays around in her yard with grandson Danny, who turned ten in 2020. One regular dialysis patient at her clinic in New Jersey finally mustered the courage to ask her son for a kidney. “He said yes, and they are both doing amazingly well. These are the stories more people need to hear so they can decide to do good.”

**DID YOU KNOW:**

100,000 Around 100,000 people in the U.S. are actively waiting for a kidney transplant and 4,600 die before a match is found.

3 TO 9 YEARS Depending on where you live, the average waiting time for a kidney in the U.S. is between three and nine years.

20,000 Every year, around 20,000 people in the U.S. get a transplant.

6,400 Of these, 6,400 are living donations.

“A LOT OF PEOPLE WOULD GIVE A KIDNEY IF THEY ONLY KNEW ABOUT THE NEED.”

Barbara Miller Clinical Manager Fresenius Medical Care

“A LOT OF PEOPLE WOULD GIVE A KIDNEY IF THEY ONLY KNEW ABOUT THE NEED.”

Barbara Miller Clinical Manager Fresenius Medical Care

“THE BIG ASK – THE BIG GIVE” (aka) is the National Kidney Foundation’s free platform of programs, resources and support for kidney patients and their families. It helps them overcome their inhibitions to share their need with family, friends, and members of their community to find a living donor. aka includes a four-hour, in-person training that teaches patients through seven strategies to tell their story and let people know how they can help. The National Kidney Foundation launched the aka in-person training in 2018. Thanks to support from the Fresenius Medical Care Foundation, it was expanded to an additional 15 locations in the U.S. in 2019 and 2020.
Nurses may not be angles, but they are the next best thing.

Every day, many thousands of nurses on all continents make a significant contribution to the well-being of patients being treated in Fresenius Medical Care clinics. On May 12, the birthday of Florence Nightingale, the founder of modern nursing care, nurses’ commitment to society is honored around the world. Fresenius Medical Care organizes special activities on this International Nurses Day, for example in the Asia-Pacific region.

“How do we gain greater recognition for nursing care?”

You are so helpful, caring and professional always. I feel secure and safe with you around. Thank you. Happy Nurses Day.

From: Lin Weiling

Every day, many thousands of nurses on all continents make a significant contribution to the well-being of patients being treated in Fresenius Medical Care clinics. On May 12, the birthday of Florence Nightingale, the founder of modern nursing care, nurses’ commitment to society is honored around the world. Fresenius Medical Care organizes special activities on this International Nurses Day, for example in the Asia-Pacific region.
THROUGH A SPECIAL KIND OF APPRECIATION.

Being a nurse does not only mean preparing and carrying out treatments. It also means getting involved with people outside of the daily routine, listening to them and responding to their problems and desires. While dialysis machines ensure patients’ physical well-being, the contact with their trusted caregivers in the clinic is what gives them new strength on a psychological level. Nurses do all they can every day to make our vision become reality: Their knowledge, their experience and above all their commitment help to make a better life possible for people with kidney disease all over the world. Fresenius Medical Care is proud of these achievements and regularly shows its appreciation on International Nurses Day. A special highlight last year were the many messages of thanks from patients to their nurses, which were collected on posters in the clinics.

This is the first time I have been shown such appreciation in the three years I have worked as a nurse in different hospitals. I am so happy about the poster and that the management team of the Indonesian clinics has come here to celebrate International Nurses Day with all of us.

Reminiscence Simamora
Mardi Waluyo Dialysis Unit,
Fresenius Medical Care Indonesia

India
Family Healthcare Hospital

Philippines
Fresenius Kidney Care
J. Llorente, MP Yap and Mendoza

China
Fresenius Kidney Care
Guli Center

China
Hejiang Kangcheng
Renal Hospital

China
Hejiang Kangcheng
Renal Hospital

Malaysia
Asia Renal Care
Petaling Jaya

Malaysia
The Kidney Dialysis Centre
Setia Deva

Hong Kong
NephroCare Tai Man

Taiwan
Saint Paul’s Hospital

Taiwan
Jia-Hsiang Clinic

Thailand
Fresenius Medical Care
Clinic (VGC)

Reminiscence Simamora
Mardi Waluyo Dialysis Unit,
Fresenius Medical Care Indonesia

This is the first time I have been shown such appreciation in the three years I have worked as a nurse in different hospitals. I am so happy about the poster and that the management team of the Indonesian clinics has come here to celebrate International Nurses Day with all of us.
We would like to thank our patients and partners for their confidence in us and all employees for their dedication and commitment.