

The global dialysis market is under pressure to adapt to thrive. **Ploy Radford** reckons that thinking big is key to survival

Dialling it up

The kidneys perform two primary functions in the human body: filtering wastes and toxins out of the blood and producing erythropoietin, a hormone which stimulates red blood cell production. Ironically perhaps, eradicating waste and stimulating production are two things the main players in the dialysis market need to be more mindful of to survive in an era of restricted public funding and advances in technology.

That's not to say the dialysis market is currently in too shabby a state. According to Allied Market Research, the dialysis market was valued at US\$86.6bn in 2016 and is due to reach an estimated US\$118.5bn by 2023. This would represent a CAGR of 4.5% between 2017 and 2023; that is not growth most investors would sniff at right now.

The sad fact is the world's rapidly grow-

ing and ageing population means a higher rate of people who suffer from kidney failure, whether that is temporary or chronic. Replacing chronically failing kidneys with new kidneys is the most desired outcome in this situation but a ready supply of kidneys is hard to come by, despite television storylines about friends who donate their spare one.

Dialysis is thus the common treatment and the market – which is made of the dialysis services, equipment (such as dialysis machines), consumables (like catheters) and drugs (for example Epogen to stimulate red blood cell production) – is a valuable one.

Where the money is

The real money earner in that market is services, according to Allied Market Research. The provision of centres where people can go for treatment and the staff to help people with the dialysis process or indeed learn how to manage it themselves at home, depending on the type of dialysis opted for [see box] accounted for two-thirds of the total market revenue of £91bn (US\$116bn) in 2017.

It is interesting to note that the consumables sector is due to experience CAGR of 5.9% from 2018 to 2023. More elderly people with kidney conditions means more products that have to be thrown

away after one use to avoid contamination, whereas you don't need to throw away, say, a dialysis machine after one use.

Through the provision of services and products, five key international players have established themselves in the dialysis market:

Fresenius Medical Care (publicly listed), DaVita (publicly listed), Diaverum (privately owned), B.Braun

Melsungen (private company), and Baxter (publicly listed). Fresenius has long been considered the market leader out of the five; indeed, it has a market cap of €39bn (US\$44.4bn) and shareholders just approved the company's 22nd consecutive dividend increase. As a size comparison, Diaverum is reportedly up for sale in the region of US\$1bn.

Positive futures?

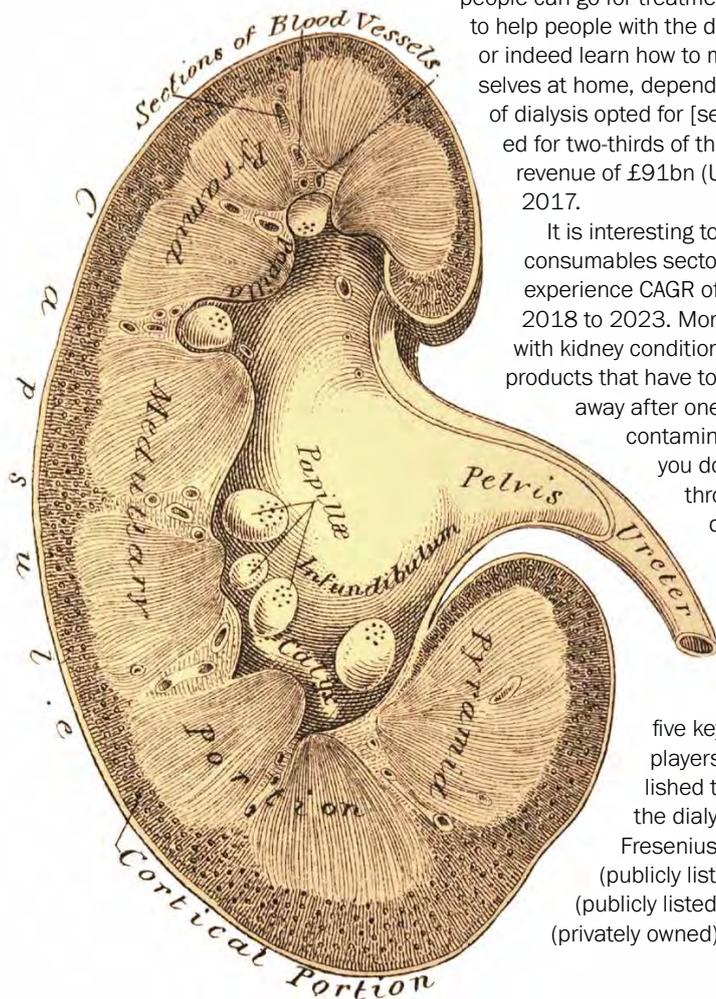
Things have been far from rosy for the market, however. Globally ageing demographics may push up demand but it does not necessarily mean that governments then have the cash to help pay for dialysis service providers in a sustainable manner.

Shares in Fresenius fell in the latter half of 2018 after the company lowered its full-year guidance for net income growth from 13%-15% to 11%-12% because its dialysis service business did not perform as expected. Then there's the fact it has admitted to doling out bribes to officials in Angola and Saudi Arabia to win work and had to pay a hefty fine in return for not being prosecuted by the US Justice Department.

Meanwhile, it's widely rumoured that DaVita and Diaverum's tariffs in Saudi Arabia were cut by 15%-20% (a prolonged negotiation process which delayed Diaverum's sale for a while) and DaVita pulled out of India, selling to Nephroplus last year after finding the market too tough. Countries such as Portugal and Poland have also recently cut their haemodialysis tariffs.

There is an argument that if governments implemented capitated models of care and gave providers the option to control larger pathways of care for renal failure and its associated illnesses, that ultimately the providers could deliver better value for money. Unsurprisingly though, this has not gotten far. National healthcare systems are tricky to reform especially given their sentimental value to the voting public.

That's not to say some progress hasn't been made – Portugal introduced a capitation model in April 2008 to reimburse its for-profit dialysis providers for haemodial-



ysis only. The model introduced offered incentive payments to providers for effective clinical delivery, resource management improvement and patient satisfaction. The result was improved numbers of patients receiving the necessary dialysis treatment, a decrease in hospital admissions and cost savings. It was calculated between 2009 and 2011 that capitation led to a cost of care saving of 10.5%.

Despite this, widespread adoption of a capitation model that gives providers more sustainable opportunities for business while saving governments money is a long way off. And, as noted earlier, Portugal has still cut its haemodialysis tariff.

Building empires

So what can providers do to ensure survival and future growth? Well, one tactic so far has been geographical growth into territories with vast demographic issues. There has been a frenzy of buying in Asia, particularly by Fresenius in China, to take advantage of the demographics there. It acquired a 70% share of Guangzhou KangNiDaiSi Medical Investment, which runs three private haemodialysis centres in China, as well as 55% stakes in Henan Aishen Hospital Management and Aishen Beijing Hospital Management. The latter two run 13 dialysis centres and one renal hospital. Fresenius also acquired a 60% share of Daqing Kangda Dialysis Centre and three other Chinese hospitals.

South America has also seen acquisition interest off the back of its demographics – Diaverum has been acquiring clinics in Brazil and Chile, for example. Poland, Portugal and Kazakhstan are among other countries that have seen acquisitive activity. But picking the right territory is important too – India has proved tricky with its large rural areas. DaVita pulled out of the Indian market, and Diaverum has expressed no interest in it, despite the fact that demographically it seems like a logical option.

Business growth tactics

Another tactic to increase profits has been acquisitions and partnerships across verticals in the dialysis market. The last decade has seen deals such as

Baxter buying Gambro, a Swedish medical equipment manufacturer and B.Braun taking on Lauer Membran Wassertechnik, which creates water treatment systems for dialysis machines.

Fresenius has done some very canny deals to assure its future. It cleverly invested US\$150m into Humacyte, for instance, to gain a 19% stake in the medical research and development company which is looking seeking clinical approval for its blood vessel implant that improves vascular access for dialysis. The deal gives Fresenius the exclusive right to commercialise the product once it has been approved.

Diversified dialysis

It has also recognised that while the majority of dialysis is haemodialysis which happens in a centre, more and more people want the convenience of at-home dialysis, particularly as technology is developing fast enough to make this safer and easier. According to Allied Market Research, in-centre dialysis made up 85% of the total market revenue in 2017 and is projected to still be the most popular in 2023, but the home dialysis market is expected to see a whopping CAGR growth

of 7% by 2023. This trend was firmly at the front of Fresenius' mind when it acquired NxStage Medical, which produces a range of home dialysis products, earlier this year.

Rice Power, chief executive of Fresenius, said at the time of the deal: 'In addition to broadening our product portfolio, this acquisition positions Fresenius Medical Care to benefit from the growing trend towards home-based therapies.'

Of course, one could argue that all this acquisitive growth will be redundant once scientists successfully create an implantable, artificial kidney. And a team at UC San Francisco, in partnership with Vanderbilt University Medical School and Silicon Kidney are doing just that with clinical trials soon to begin on their artificial kidney.

But, it's still some years away until such an invention is approved for clinical use. And given the current strategy of embracing different verticals, maybe we can expect to see savvy dialysis providers investing in such technological advances themselves.

Thinking big – in terms of geography, service scope and science – is clearly going to be crucial for the big players in this market to survive.

Types of dialysis

Haemodialysis

This involves blood being pumped out of your body into an artificial kidney machine, where it is cleaned before being returned to your body. Most people need three sessions of haemodialysis a week, each lasting around four hours. This can take place in a dialysis centre or can be done at home.

Peritoneal dialysis

The inside lining of your stomach acts as a natural filter for your blood. A catheter is placed in your belly through surgery and dialysate fluid is attached to the catheter and passes into your peritoneal cavity, a space within your abdomen. Any waste products in blood that passes through the vessels lining the inside of the abdomen are drawn out into the dialyte fluid which is drained a few hours later from your body.

There are two types of peritoneal dialysis. One is continuous ambulatory peritoneal dialysis, whereby your blood is cleaned several times during the day. The second is automated peritoneal dialysis, whereby your bloody is filtered at night while you sleep with the help of a machine.