INFOSYS' SAP SOLUTION FOR PERSONALIZED MEDICINE

Infosys®

Navigate your next

A quick introduction to personalized medicine

While every business in the world has been reshaped, disrupted or changed in other ways by technology, very few of them would have seen the kind of shift that a few life sciences companies are going through. This shift is personalized medicine, a treatment approach that is driving pharmaceutical and life sciences companies that have historically produced drugs in massive quantities to create a unique treatment for a single patient, and close the cycle. In brief, the treatment involves drawing the patient's cells and genes, genetically modifying and harvesting it, and finally, infusing it within the patient's body. Personalized medicine, which apart from being a

medical revolution, is a transformation of mindset and business processes, has become possible because of three major technological advances.

The first is data science, which can analyze immense quantities of information, such as genome level data, at exceptional speed to extract the genome-level characteristics that need to be modified to create personalized medication. The second development is the availability of cryogenic manufacturing technology to the life sciences industry. The third technological advance is in the area of cold chain logistics: the cells and genes, which are treated in the pharmaceutical company,

needs to be transported to the patient's location at cryogenic temperatures; thanks to sensor technology and the Internet of Things, it is now possible to constantly monitor the ambient conditions under which the movement takes place, and intervene where necessary.
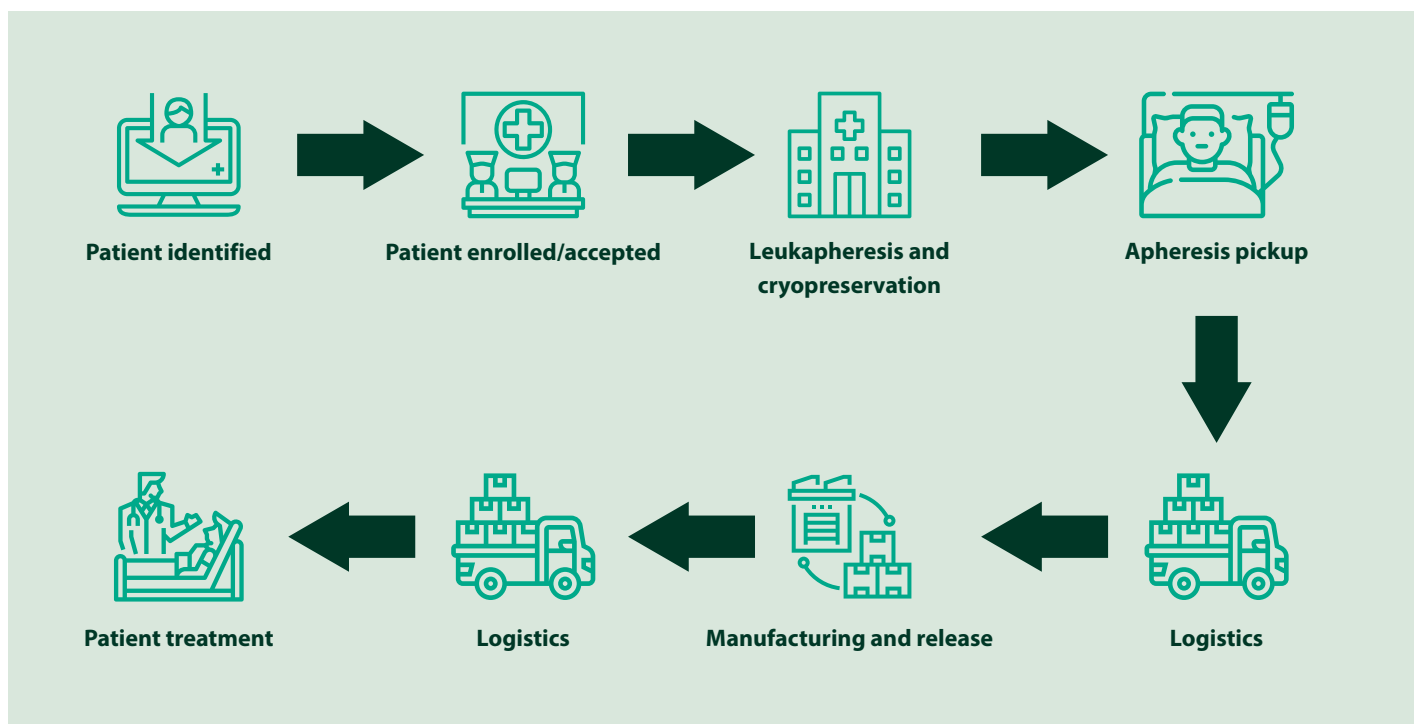
This is clearly an extremely complex and prohibitively expensive operation, which currently costs between US$ 500,000 and US$ 750,000 per treatment. There is a demand for it only because personalized medicine trials have shown encouraging results in treating terminally ill leukemia patients, who have not responded to other interventions.

What Infosys is doing

Infosys, along with SAP, has created a personalized medicine solution for the life sciences industry built on the SAP S/4HANA digital platform. We chose to work with SAP for two big reasons – one, all the top life sciences companies use a SAP solution as their core ERP, and two, Infosys has considerable prowess in SAP technologies.

Before we talk about our role, let us take a quick look at the overall business process. Patient candidates for personalized medicine who are selected for receiving treatment (not everyone is eligible) must go to a healthcare provider for apheresis (cell and gene extraction); the extracted cells and genes are transported through a cold chain logistics system to a pharmaceutical company, which runs

extensive analytics to determine the modifications to be made. It then carries them out using cryogenic manufacturing processes to harvest plasma in prescribed potencies, namely, low, medium and high. The pharmaceutical company ships back cells and genes, again using cold chain logistics, to the healthcare provider for injecting back into the patient in the appropriate dosage.

Patient identified → **Patient enrolled/accepted** → **Leukapheresis and cryopreservation** → **Apheresis pickup** → **Logistics** → **Manufacturing and release** → **Logistics** → **Patient treatment**

At the back end of this process lies a huge amount of sensitive and confidential patient data that must be protected in line with the relevant data security and privacy laws in its particular jurisdiction. There is also a financial supply chain running in parallel for making the substantial payments due to the various participants in the personalized medicine value chain. In addition to managing this supply chain, the pharmaceutical company has to comply with extensive reporting requirements.

An Infosys solution based on SCP (SAP Cloud Platform) takes care of all the front-end interfaces, from the patient's end to the healthcare providers. Qualtrics, added on top of this, will provide patient sentiment data in subsequent releases. The logistics and manufacturing processes are powered by SAP S/4HANA as the core ERP. SAC (SAP Analytics Cloud) takes care of the analytics and reporting requirements.

Our value proposition to the client is twofold – managing the entire transaction value chain and taking care of the regulatory aspects of the various business processes at work. As pharmaceutical companies ride an exponential growth curve, with personalized medicine slated to go from a US$ 10 billion market today to US$ 190 billion in 4 - 5 years' time, they need to focus on multiplying capacity and reducing cost; we help them do that by relieving them of the burden of managing non-core functions.

The road ahead

While our solution is still in the early stages of adoption, we foresee good growth prospects as personalized medicine grows in its current applications and finds new use cases – e.g. in treating kidney and liver diseases through personalized medicines. Leading industry analysts and life sciences and healthcare practitioners worldwide are also quite excited about the progress of Infosys in this highly specialized area.

About the Authors

Vivek Ruikar

VP and Global Head of SAP Sales and Engagement (Financial Services, Healthcare and Life Sciences), Infosys

Vivek is with Infosys from 2003. He has worked in various capacities across SAP program execution, business development and sales. He has over 25 years of SAP experience. Vivek has worked across multiple industry segments like Life-Sciences, Financial Services, Insurance, CPG, Manufacturing, Energy, Utilities, etc.

Pankaj Sali

Principal Consultant, SAP Life Sciences, Infosys

Pankaj leads the SAP solutions for Life Sciences practice at Infosys. He comes with an overall 17 years of experience in SAP space. He has been part of various SAP implementations and roll out programs at Infosys as supply chain expert. He is the Architect of Infosys Personalized Medicine solution on SAP.

To know more about Infosys SAP S/4HANA offerings, please click here

For more information, contact askus@infosys.com

Infosys.com | NYSE: INFY

Stay Connected