**Genomics and Precision Medicine: Marketing Challenges and Opportunities**

In an age of big data, companies now have more power to respond to their customers as individuals. Ever since the first internet shops discovered that tracking users’ buying habits could help them to predict what other products users might be interested in, a personalised and tailored service is something companies strive to deliver and consumers increasingly expect.

Personalisation is also reflected within the life sciences industry, enabled by the cracking of the human genome code in 2003. The resulting discipline of genomics studies the complete set of DNA within an individual, which helps to understand their predisposition towards certain genetic diseases, informs the best course of treatment, and ultimately contributes to the development of personalised medical solutions. As more detailed information becomes available about our specific genetic make-up and diagnoses are adapted accordingly, we as patients will increasingly demand pharmaceutical solutions tailored to our DNA rather than mass-market, one-size-fits-all drugs. The buzzword is “precision medicine”.

**Genomics is a Thriving Market**

The global genomics market is already valued at over £8 billion and forecasted to grow rapidly over the coming years, due to government support and investment.

In the UK, the 100,000 Genomes Project is set to receive £250 million over the next five years, announced as part of the government’s 2015 Spending Review and Autumn Statement. Introducing whole-genome sequencing technology to the NHS is the ultimate goal of the project, which aims to complete patient sequencing by the end of 2017. Prime Minister David Cameron wants the NHS to be the first mainstream health service in the world to offer genomic medicine as part of routine care: “I am determined to do all I can to support the health and scientific sector to unlock the power of DNA, turning an important scientific breakthrough into something that will help deliver better tests, better drugs and, above all, better care for patients.”

In the US, the White House launched its Precision Medicine Initiative, with an initial budget of $215 million, and stated that “the possibilities are boundless.” The Administration’s programme begins with a plan to collect genetic data on one million Americans so scientists can develop more diagnostics and therapies tailored to the characteristics of individual patients.

Of course, the life sciences industry itself has already been pushing ahead in this area, working on innovative ways to apply genomics to drug development and delivery. An early example of how genomics is changing patient care is the blood thinner Warfarin. Patients vary widely in their required doses and, in the past, this meant that initial doses for some patients were too high or too low, which led to negative side-effects. However, by reading individual biomarkers, doctors can now accurately determine the best starting dose for each patient, mitigating side-effects and potentially saving lives.

Another example of the development of precision medicine via the use of biomarkers is Kalydeco (ivacaftor) from Vertex Pharmaceuticals. The drug treats cystic fibrosis in patients who have any of nine specific mutations in a gene called the Cystic Fibrosis Transmembrane Regulator (CFTR), which causes thick mucus to accumulate in the lungs and digestive tract. Kalydeco is the first drug to offer a way to “work around” the defects caused by these particular genetic mutations.

Prognostic biomarkers are transforming cancer care. For example, genetic anomalies in malignant tumours can sometimes be used to predict the effectiveness of therapies. A preliminary study from the M.D. Anderson Cancer Center illustrated the potential benefits from matching targeted therapies with specific gene mutations across many cancer types. Patients with targeted therapies demonstrated a 27% response rate, compared to 5% for those whose therapies were not matched.

In fact, personalised medicines represent 42% of drugs in the pipeline today, according to a survey by the Tufts Center for the Study of Drug Development. Life sciences firms are increasingly moving away from the old model of developing a single blockbuster product to address the widest-possible patient population to a more personalised approach. These companies are working to develop specialised drugs for smaller groups to match patients to the best therapies based on their genetic make-up and other predictive factors. For instance, the one or two drugs used to treat high cholesterol are splintering off into many slightly different therapies based on the genetic variables of particular patient populations.

**Precision Medicine Creates New Marketing Challenges**

However, while highly specialised drugs produce better outcomes for patients, they present a tough challenge for marketers. A medical solution that can benefit 30,000 patients instead...
of 3 million requires a special kind of advocacy as it enters the marketplace. It also requires a fundamentally different pricing model. Marketing teams must not only convince healthcare providers that their personalised drugs produce better outcomes, but that they also reduce the total cost of treatment. The education and messaging required to communicate the value of precision medicines is exponentially more complex.

In this new landscape, the mass-marketing approaches of the past simply won’t work, posing a significant challenge to the existing commercial model. Marketers must now deliver tailored information to healthcare providers based on very specific patient use cases. The education of all healthcare stakeholders on precision medicine must be more fluid, more accessible, and more bidirectional. The more specific the treatments, the faster and more targeted the information flow must be.

Fortunately, just as genomic advances continue, so do advances in technology, which makes it easier for companies to personalise their approaches to customers. Next-generation data systems are emerging to address more intense sales and marketing demands by providing life sciences companies with something new and revolutionary: a single and complete view of the customer.

**Precision Medicine Requires Precision Marketing**

Traditional technologies in life sciences have resulted in a siloed approach to customer communications and touchpoints. Bits and pieces of information from customer interactions online and in person have remained largely isolated in different systems, or never captured at all. Like precision medicines for patients, successful commercialisation today requires detailed mapping of every interaction.

What information are my customers searching for? Where are they spending time on my website? Which dinner meetings are they going to? What influencers do they listen to? These are the questions that anyone representing the company wants to understand, but without visibility into all possible data points across all channels, even the best performers can be blindsided. With traditional systems, companies can’t process all of this information in a timely manner, and so can’t provide customer-facing teams with the best game plan for each customer.

However, modern CRM systems make it easier to capture and bring together all customer interaction data for a single, complete view in real time, made available via the cloud. When this information is shared and understood by everyone, sales and marketing teams can precisely segment customers and target them with relevant information.

With cloud-based systems, all of these rich customer details are easily accessible for internal groups, including the increasingly active medical science liaisons, who are talking to doctors on an entirely different level. Additionally, teams can bring valuable customer information back to the organisation, funnelled through the same system. External partners such as contract sales organisations can also efficiently contribute insight from their customer interactions in a single system. The same applies to regional affiliates for a truly holistic view of the customer worldwide.

It is also now possible to capture data in large enough sets and then apply data science to anticipate customers’ needs before they ask. By correlating large volumes of customer engagement data with actual customer behaviour, commercial teams predict what they want and serve it up preemptively. As an example, if you know that a specific segment of healthcare providers responds to a unique sequence of information consumption, you can proactively provide the same sequence of information to similar customers.

A modern CRM system can gather the information necessary to make these kinds of predictions. Such a system can provide strategic recommendations for ways to interact with a customer – through which channels and with tailored information. Life sciences companies can also begin to provide this on demand – how and when healthcare providers need it. This is critical as the rise of increasingly complex treatments requires an ongoing, bidirectional flow of information, compared to the old push model of message delivery.

The technology is now available to make personalised marketing a reality. But it takes more than technology. It takes a new way of thinking – one that will fundamentally transform how the life sciences industry approaches this new world of personalised medical solutions.

**References**

5. [http://clinicancerreses.aacrjournals.org/content/18/22/6373.full](http://clinicancerreses.aacrjournals.org/content/18/22/6373.full)

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**Jan van den Burg, Vice President, Commercial Strategy, Europe.**

Jan, our VP, Commercial Strategy, is responsible for strategy and product marketing for our Veeva Commercial Suite of Applications, focusing on the European market. He has over 20 years’ experience in the software and services industry, mostly dedicated to Pharmaceuticals.

Most recently, Jan was leading the Life Sciences Sales & Marketing group in IBM Global Business Services, engaging at strategic level with top 20 Pharmaceutical companies on Customer Relationship Management, Closed Loop Marketing, Multichannel and Digital Marketing as well as Digital Asset Management. Prior to IBM, Jan set up and ran the European business for Proscapes Technologies, the then-leader in Closed Loop Marketing, successfully developing the market from inception, establishing the concept and leading the early implementations.

With a BSc in Engineering and an MSc in Business Administration from the University of Twente, in the Netherlands, Jan began his career at Capgemini, followed by a move to the UK where he worked with PWC Consulting.