

200 Madison Avenue  
New York, NY  
10016 USA  
T +1 212 532 1000  
F +1 212 251 2766  
ny@havaslynx.com

52 Princess Street  
Manchester  
M1 6JX UK  
T +44/0 161 228 7756  
F +44/0 161 236 3266  
europe@havaslynx.com

Berkshire House  
168—173 High Holborn  
London  
WC1V 7AA UK  
T +44/0 161 228 7756  
F +44/0 161 236 3266  
london@havaslynx.com

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PERSONALIZED  
MEDICINE: IT'S TIME  
TO GET CREATIVE





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## PERSONALIZED MEDICINE: IT'S TIME TO GET CREATIVE

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# PERSONALIZED CONFUSION



<sup>1</sup> [bit.ly/1RIUeli](http://bit.ly/1RIUeli)

<sup>2</sup> [usa.gov/1pOHfkc](http://usa.gov/1pOHfkc)

<sup>3</sup> [bit.ly/1LtpaSO](http://bit.ly/1LtpaSO)

<sup>4</sup> [bit.ly/1SWuYpi](http://bit.ly/1SWuYpi)

<sup>5</sup> [usa.gov/1ByXMal](http://usa.gov/1ByXMal)

<sup>6</sup> [bit.ly/1pOHEmU](http://bit.ly/1pOHEmU)

<sup>7</sup> [usa.gov/1pOHGeu](http://usa.gov/1pOHGeu)

For anyone working in healthcare and related fields, it might feel like the term “personalized medicine” has been around forever. It hasn’t. It first appeared in mainstream media in April 1999 with an article in *The Wall Street Journal* entitled “New Era of Personalized Medicine – Targeting Drugs for Each Unique Genetic Profile.”<sup>1</sup> The key to the title of the piece is the Human Genome Project, which kicked off in 1990 and completed the first mapping of the human genome in 2003.<sup>2</sup>

Since that first coining of “personalized medicine” almost 17 years ago, a lot of people in healthcare have picked the idea up and put their own spin on it, inevitably creating plenty of confusion in the process.

Hardcore genetics boosters have been fired up by the prospect evoked in that 1999 article heralding medications so smart they can act like the latest military technology, but on a molecular level in the body. The medications are designed to lock on to specific types of molecules that can be identified in specific patients. Accordingly, personalized medicine is about targeted therapy<sup>3</sup> with drugs that can make pinpoint strikes on enemy cells, just like those Precision-Guided Munitions<sup>4</sup> hitting hostile targets in newscasts from combat zones and TV shows such as *Homeland*.

Attempts to narrow down the meaning of “personalized medicine” along these lines led to the term “precision medicine,” as in President Obama’s 2015 Precision Medicine Initiative.<sup>5</sup> (The initiative is currently aiming to enroll 79,000 volunteer participants in a pilot involving Nashville’s Vanderbilt University, advised by Verily, formerly Google Life Sciences.<sup>6</sup>) Behind this attempt at sharper wording, however, it turns out that precision medicine has much the same meaning as personalized medicine. Both describe an approach to disease prevention and treatment that takes account of individual differences in people’s genes, environments, and lifestyles. A more focused version, in line with the 1999 paper, is genomic medicine, which involves using information about an individual’s genes as part of their clinical care. For the National Human Genome Research Institute,<sup>7</sup> personalized

medicine is an emerging practice of medicine that uses an individual's genetic profile to guide decisions made in regard to the prevention, diagnosis, and treatment of disease.<sup>8</sup>

This type of thinking is well beyond the popular curve. Genomics and related hi-tech developments have barely registered in the awareness of people who aren't healthcare professionals (HCPs). A 2014 general public survey<sup>9</sup> found that only 38 percent of those surveyed thought they had heard of personalized medicine. Tellingly, however, far fewer (16 percent) thought they actually knew what it was. This vagueness on closer questioning is not surprising. Ask somebody about a medical term such as "intravenous electrolyte infusion," and they will need a minimum level of technical knowledge even to guess what it means. By contrast, "personalized medicine" is the sort of everyday language whose meaning can be more or less guessed. Patients tend to think personalized medicine is about physicians adopting a holistic approach to treatment that looks beyond an individual's disease condition and takes account of their physical, mental, and spiritual well-being. Caregivers tend to think the term implies more attentive care from their HCPs.

The definition spelled out by the Personalized Medicine Coalition<sup>10</sup> (PMC) keeps the field open and steers clear of technicalities such as genomics: "Personalized medicine is an evolving field in which physicians use diagnostic tests to determine which medical treatments will work best for each patient. By combining the data from those tests with an individual's medical history, circumstances, and values, healthcare providers can develop targeted treatment and prevention plans."

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Personalized Medicine Coalition (PMC)

<sup>8</sup> [usa.gov/IRIVefG](http://usa.gov/IRIVefG)

<sup>9</sup> [bit.ly/1U9I8RE](http://bit.ly/1U9I8RE)

<sup>10</sup> [bit.ly/1S6QNjX](http://bit.ly/1S6QNjX)





Some HCPs have objected to the term “personalized medicine” on the grounds that it’s nothing new. Certainly the PMC’s definition could have been written 30, 40, or even 50 years ago. Those who object argue that HCPs have always treated each patient as an individual, taking full account of their individuality as a person.<sup>11</sup> What’s changed is that with technological advances, physicians now have more ways to tailor their treatments more specifically to individual patients. Whether or not they tap all of the following new developments, they certainly have plenty of scope to tailor their care more closely to the needs of each patient.

#### GENOMICS

Medical research has increasingly been able to identify the genes involved in a range of conditions. The cost of sequencing the human genome has tumbled from \$95 million in 2001 to just \$1,245 in October 2015.<sup>12</sup> Genetic testing of individuals for hundreds of specific conditions has become commercially available at costs starting in the low hundreds of dollars.<sup>13</sup>

#### BIOLOGICAL MARKERS

Also known as biomarkers,<sup>14</sup> these are molecules in the bloodstream that can flag what’s happening in an individual on a microscopic level — long before the development of changes that would show up in scans. Biomarkers make it possible to detect and/or diagnose disease, to predict response to therapies, and assess the progress of disease.

#### WEARABLES AND DIGITAL BIOMARKERS

From step counters and activity trackers, heart rate and ECG monitors, skin temperature sensors and blood saturation clips to blood sugar monitors, wearable technology with wireless connectivity is opening the way to real-time reporting of what’s happening with an individual’s body and behavior. These types of data, being gathered digitally, have been called Digital Biomarkers.<sup>15</sup>

#### ANALYTICS

Data from wearables can be gathered locally and transmitted to secure remote servers that process the information and integrate it with an individual’s other health-related data. This makes it possible to generate sensitive and detailed health-tracking data for individuals.

#### ELECTRONIC RECORDS

Electronic Health Records (EHRs)<sup>16</sup> are digital records containing all of a person’s health-related information. The percentage of office-based physicians using EHRs has risen consistently since the early 2000s and stood at 82.8 percent in 2014.<sup>17</sup>

<sup>11</sup> [bit.ly/1lyH5yN](https://bit.ly/1lyH5yN)

<sup>12</sup> [usa.gov/1LtqwgE](https://www.usa.gov/1LtqwgE)

<sup>13</sup> [bit.ly/1pQJcgL](https://bit.ly/1pQJcgL)

<sup>14</sup> [bit.ly/1Go5pEv](https://bit.ly/1Go5pEv)

<sup>15</sup> [bit.ly/1QTIBNY](https://bit.ly/1QTIBNY)

<sup>16</sup> [bit.ly/21v0lbe](https://bit.ly/21v0lbe)

<sup>17</sup> [bit.ly/1R1XCmg](https://bit.ly/1R1XCmg)



# TIME TO MOVE PERSONALIZED MEDICINE → AHEAD

It's hard for marketers to resist hyping the promise of personalized medicine, especially the almost cinematic idea of “pinpoint strike” pharmacogenomics.<sup>18</sup> It may be hard, but smart marketers should resist the temptation of making gee-whiz claims that turn out to be oversold. They risk blowing their own credibility with critical audiences, and undermining the credibility of personalized medicine as a whole.

We can do better than that. We believe personalized medicine offers scope for healthcare marketing to raise its game. It's a field that's crying out for our creativity and communication expertise allied with our knowledge of the complexities of healthcare.

## THE CONSUMER PERSPECTIVE

Over the past decades, across the most dynamic product areas, the direction of travel has been toward products that are personal and personalized. Any service that promises a greater measure of personal focus has resonated with consumers: personal computers, personal organizers, personal development, personal trainers, personal finance, personal hotspots, and personal mobility to name a few. Whatever the various definitions and elements of personalized medicine may be, the general thrust of development is in line with this unstoppable trend.

Specifically, too, it's a proposition that holds a lot of appeal for the public at large, at least in a market research environment where they are provided with information about it and asked to give their reactions. After hearing a description of the concept in the survey conducted for the PMC,<sup>19</sup> just under two thirds of respondents (65 percent) said they were mostly positive, while 28

percent were neutral, 2 percent negative, and 5 percent didn't know. A large 77 percent of consumers surveyed by the PMC said they would be likely to have a diagnostic test for developing a personalized prevention or treatment plan. All in all, they were positive about the potential benefits. The concerns they had were about access, affordability, and the potential for personal medical information becoming the basis to deny treatment.

Promising though it is, very few consumers will get the chance to hear about personalized medicine in a market research environment. Very few consumers will enjoy the benefit of having the concept explained to them in this way, and having dedicated time and space to think about it. However well it's presented on whatever media platform, it faces stiff competition for consumer attention. Certainly, as coverage in mainstream media increases, we can expect gradually growing consumer

<sup>18</sup> [bit.ly/1EYNQeQ](https://bit.ly/1EYNQeQ)

<sup>19</sup> [bit.ly/1U9I8RE](https://bit.ly/1U9I8RE)

interest in personalized medicine, especially if a celebrity takes up the cause. Even so, it's a complicated subject where the essence of what's on offer isn't a cool physical product offering instant gratification.

Widespread adoption of personalized medicine is likely to be driven as much by HCPs as consumer pull. This begs the question: what's the benefit for HCPs in promoting personalized medicine to their patients?

THE HCP PERSPECTIVE

Let's assume that the primary and overriding mission for HCPs is to foster optimum health in all their patients. And let's assume for a moment that they are able to find their way through the complex structures and perverse incentives that may make it more difficult for them to do their work. The various tools of personalized medicine (see [What's New](#)) offer plenty of options to help them fulfill that primary mission in every respect, from preventive care to keeping patients healthy, through helping patients recover from acute episodes, all the way to ongoing management of chronic conditions.

Some HCPs are bound to take the skeptical view that the whole thing has been hyped beyond hope as the game changer in healthcare.<sup>20</sup> Sober medical caution is certainly advisable when evaluating some of the more far-fetched claims about its likely impact on cancer, diabetes, heart disease, high blood pressure, lung disease, and stroke.

Even for less skeptical HCPs, it's one thing to know there's a whole range of emerging products and services that they could offer to their patients in a personalized medicine proposition. It's another thing for an HCP to keep up with each of the offerings in each category, to evaluate their value and

accuracy, and to determine their regulatory status. And it's still another thing for an HCP to identify worthwhile services and configure them into the sort of offerings that will appeal to patients and benefit them.

HOW MARKETERS  
CAN HELP

**For suppliers:** As healthcare marketers, our work takes us across boundaries between different types of suppliers: pharma companies, diagnostic specialists, medical device manufacturers, wearables developers, and analytics platforms. We are in an ideal position to see how their existing offerings can be integrated into personal medicine configurations — and to suggest opportunities for new offerings. We're advocating for more clinical studies that are designed differently, to demonstrate personalized differences in response.

**For HCPs:** Sooner or later, an HCP will be confronted with decisions about where they stand on personalized medicine. One important task for healthcare marketers is to help HCPs understand the field so that they can decide what to do about it: whether to get into it, to wait and see, or to steer clear of it. We must work to create clear communication regarding decision trees and the tools required to pull it through. It's likely that growing numbers of HCPs will decide to offer personalized medicine to their patients, but which elements in which configurations? With our big picture view across domains, products, and services, we can help HCPs by developing interactive matrix models and decision trees for them to configure personalized medicine plans. The next step is simplified communication and training regarding decision trees and the tools to pull those differences through in practice.

For patients and caregivers:

As well as explaining personalized medicine verbally, HCPs will need reference materials that patients can understand. Some patients may have sufficient expertise to get their information from HCP briefing materials, but most will need materials specifically developed for nonexperts. We will need to develop words, images, messages, and metaphors that accurately communicate personalized medicine to them.

The direct-to-consumer genetic testing company 23andMe actually commissioned a national TV advertising campaign in 2013 before it ran into FDA regulatory problems that it later overcame in 2015.<sup>21</sup> The ads, which tested well, conspicuously avoided the technical approach of camera shots zooming in on the body. Instead, they took a humanizing approach. Actors who had taken the test were shown reacting to the camera — a real case of “what's in it for me.”<sup>22</sup>

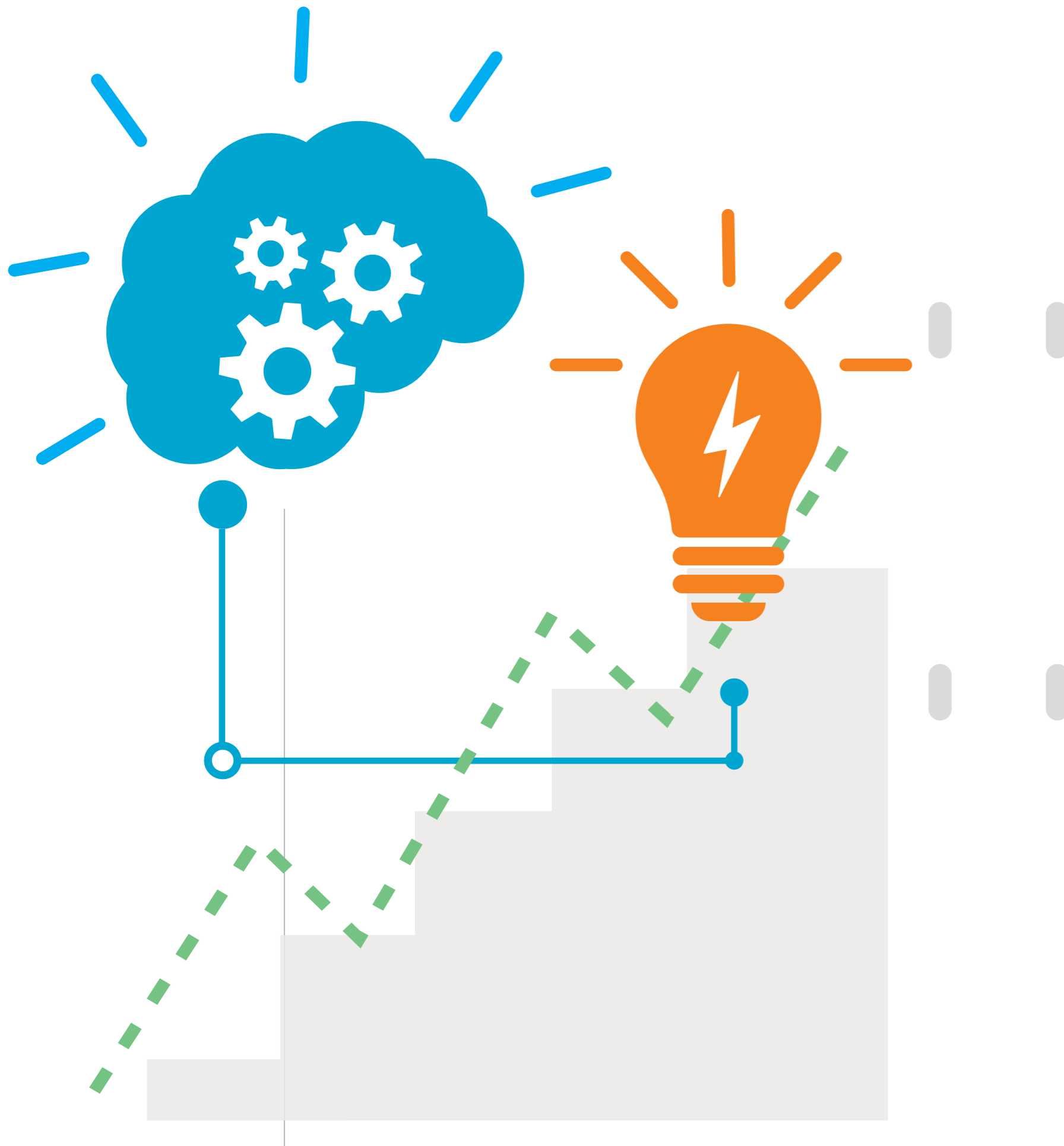
It's incumbent upon communicators to drive self-advocacy among patients, perhaps armed with one's own genomics data. We may get easy traction by developing ways for them to get hands-on experience with personalized medicine. While genomics and treatment history are clearly the first personalized medicine inputs, health wearables and trackers can be effective post-treatment feedback providers of disease progression and effectiveness of treatment. Almost 80 percent of American mobile users have a smartphone<sup>23</sup> and wearables such as Apple Watch and various Fitbit devices are now firmly established in the market. The sort of consumers who use these devices tend to be primed to try out plug 'n' play services that don't require much explanation — tracking steps and activity, heart rate, sleep, food and drink consumption, and other such “soft” metrics that can all become part of personalized medicine configurations.

20 [onforbes/1S6S4Ye](#)

21 [bit.ly/1PeDI9I](#)

22 [bit.ly/22oufUJ](#)

23 [bit.ly/1RIYRIP](#)



# MARKETING AS CREATION AND INTEGRATION

Whatever specific elements are involved, personalized medicine is bound to get bigger. It's important for healthcare marketers to recognize the roles they can play in helping the field fulfill its promise. We bring unique skill sets to the healthcare space: knowledge of products, services, and systems; expertise in communication, persuasion, and motivation; creativity in devising programs that integrate disparate elements, and experience in activating them.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.[illegible]