

CUSTOMER EXPERIENCE

SHAPING DIGITAL HEALTHCARE

***WHY AREN'T DOCTORS USING DIGITAL THERAPEUTICS?
DIGITAL THERAPEUTICS AND THEIR IMPACT ON SOCIETY
DESIGNING A GLOBAL DIGITAL PATIENT SERVICES PLATFORM
RETHINKING ELECTRONIC MEDICAL RECORDS
HOW AUSTRALIA BECAME A DIGITAL HEALTH PIONEER
ENHANCING THE LIFECYCLE OF YOUR INSIGHT***



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Letter from the editor

I have worked as a user experience (UX) researcher and designer for more than 30 years in a multitude of industries. In that time, I have witnessed how digital platforms and services have changed these industries and the way we live.

In my decade working in healthcare, I have witnessed the industry listening and evolving in its efforts to become more customer and patient centric, not only in the desire for deep insight, but to inform the design of services and tools to shape the way organisations deliver increased support for healthcare professionals and to facilitate better outcomes for patients and those that care for them.

The healthcare industry is changing. Digital health technology and therapeutics are a large part of that change and are proliferating exponentially. There are many reports documenting this trend including a recent one by Grand View Research Inc. that expects the global digital health market to reach \$509.2 billion by 2025, expanding at a compound annual growth rate of 27.7% over the forecast period. Like every other sector, healthcare is and will be transformed.

Building on our [‘Power of Insight’](#) Perspective magazine published in March 2018, the articles in this magazine explore a common theme – how to best gather insight and understand the needs, challenges and behaviours of the end user in order to inform and define the design of innovative healthcare services and tools that are ‘fit for purpose’. These services need to equally deliver against the business objectives as well as stakeholder needs. Ultimately, this means delivering improved health outcomes and value for patients, caregivers, healthcare professionals and the healthcare systems that they serve.

Blue Latitude Health works with commercial and medical teams in top pharmaceutical companies and innovative biotechs. Our dedicated customer experience team is made up of experts in both insight generation and user experience research and design. We are passionate about helping our clients develop services, tools and campaigns that make a real difference to their organisation, their customers and patients’ lives.

We hope this magazine inspires you and if you would like to see more of our work please visit bluelatitude.com or contact me at elisa.delgado@bluelatitude.com.

Elisa del Galdo

Head of Customer Experience

CONTRIBUTORS

Stewart

Senior User Experience Consultant

Stewart is a research and design professional with more than 24 years of experience. For the last eight years he has worked with brands delivering solutions for healthcare customers.

Amit

Senior Associate User Experience Consultant

Amit is a UX expert whose role includes conducting qualitative and quantitative research to uncover the needs of HCPs, patients and caregivers.

Natasha

Content Marketing Manager

Natasha oversees the content and thought leadership strategy for Blue Latitude Health. She has a background in journalism, communications and content creation.

Jack

Marketing and Business Development Assistant

Jack supports the marketing team with content creation, digital strategy, project management and various marketing and business development related tasks.

Elisa

Director and Head of Customer Experience

Elisa ensures our clients' projects benefit from the very best in user-centred design practices and strategic customer experience thinking.

Dina

Freelance Journalist

Dina is a NCTJ qualified journalist with seven years' experience writing news, features and in-depth business and technology articles.

Edited by Elisa Del Galdo and Natasha Cowan
Designed by Leo Joseph

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Why aren't doctors using digital therapeutics

By Dina Patel

The digital therapeutics market is set to reach almost \$1 billion by 2026 as wearables and apps continue to play an important role in enhancing healthcare. However, adoption of these tools by healthcare professionals is comparatively low. Senior User Experience Consultant Stewart Anderson explains why.

In the digital age, the technology exists to better capture, analyse and share healthcare data to drive better patient outcomes, to improve their quality of life and ultimately to analyse aggregated, anonymised data to enhance our understanding of disease and population level outcomes.

With more than 300,000 healthcare apps available on the market today, it's clear there is an abundance of healthcare technology available to meet a variety of patient, caregiver, and healthcare professional (HCP) needs.¹ However, although HCPs are often initially excited about the digital therapeutics flooding the market, the uptake of these technologies is low.

This is not due to economic issues plaguing our healthcare systems. Recent analysis from IQVIA Institute for Human Data Science suggests that the use of digital health apps in five chronic disease patient populations could save the UK

healthcare system an estimated £170 million per year.² Despite these benefits, the National Health Service (NHS) has only just rolled out a 10-year, long-term plan to support a digitally enabled therapy assessment programme.

Across the Atlantic, the United States Food and Drug Administration (FDA) is also currently still in the pilot stage of its [Software Precertification Program](#), which is redefining how the FDA regulates digital health devices. Although the consumer sector is using technology to solve customers' challenges and enhance their experience, healthcare has fallen behind. This is in part due to the complexity of the healthcare industry, coupled with the high and sometimes fatal risks of failing to achieve the outcomes promised.

With 24 years of experience as a research and design professional, Stewart Anderson, Blue Latitude Health's Senior User Experience Consultant, has honed his skills in digital service design, developing solutions that meet HCP and patient needs at the point of need. Here, he explains why doctors fail to prescribe digital health tools and how pharma companies can help to solve these challenges.



How are digital therapeutics helping patients today?

SA: Wearables and healthcare apps are already improving the lives of people managing chronic diseases, and they have a huge potential to transform their lives in the future.

Consider diabetics, for example. One of the most anticipated features available in the latest continuous glucose monitors (CGMs) is the ability to predict hypoglycaemic attacks before they happen, without users having to take any action at all. Blood sugar levels are automatically sent to the app on the users' smartphone every five minutes, allowing it to track its direction and speed of travel and alert them up to 20 minutes before hypoglycaemia is expected to occur.

This can reduce the frequency and severity of hypoglycaemic symptoms suffered by people with diabetes, by helping them to act preventatively, rather than reactively after their blood sugars have dropped. It can also have the unexpected benefit of encouraging healthier eating, by giving people with diabetes the information they need to be able to snack appropriately – instead of relying on glucose tablets when they are already hypoglycaemic.

Also, whether it's a child or an elderly loved one who has poor warning symptoms for hypoglycaemic attacks, the peace of mind that comes with knowing your smartphone can alert you when

someone you care about needs help, even when they are asleep at night, is worth its weight in gold.

There are many everyday benefits that only become apparent with a rich understanding of the experience of living with diabetes.

Need to test your blood during an important meeting at work or in a social situation like a dark cinema or nightclub? Instead of having to stop what you're doing, search for your glucometer in your bag, switch it on, wait for it to be ready, prick your finger with a lancet, and wait for the result, people with diabetes can now glance at their smartphone or smartwatch to get a recent blood sugar level reading in a matter of seconds. At a restaurant and forgot to test your blood before you started eating? Earlier results are one tap away.

Ultimately, keeping a comprehensive diary of blood glucose levels, along with insulin, carbohydrates, alcohol and exercise, is key to managing type 1 diabetes. The latest CGMs make it truly effortless to track blood glucose levels and, if the patient chooses, to easily share this personal data with their HCPs.

What's preventing more patients from using these tools?

SA: The digital therapeutics market is like the beauty industry – there is so much out there that you're overwhelmed with choice. If patients care enough and have the time to do their own research, it's very difficult to identify with any confidence which healthcare apps work and which don't. After downloading and using four or five apps only to discover that they don't help them, many simply give up looking.

Cost is another big challenge as wearables and healthcare apps are financially out of reach for many people, with business models ranging from 'freemium' – in which the basic service is free of charge but more advanced features must be paid for – to ongoing monthly or annual subscriptions.

There is also a sense of scepticism from the public. Some people with diabetes, for example, perceive that CGMs, though more accurate now than ever before, do not yet provide blood sugar readings as accurately as traditional finger-pricking glucometers. After trialling CGMs in real life, however, it appears that more-frequent readings, even if less accurate, empower people with diabetes to better control their blood sugar and stay within target levels. Others fear they could get used to their CGM doing all the work for them and lose the ability to sense for themselves when their blood sugar levels are high or low. Fear of change, even positive change, is nothing new.

When creating innovative solutions, it's crucial to understand the real human preconceptions and concerns that the design needs to address.

Last year, one of the largest life insurance providers in the US announced that all new customers would be required to provide personal healthcare data from a wearable. For customers willing to agree to this pre-condition, the personal data shared has no impact on their premiums, and it will be interesting to see how the market develops and how customers attitudes and behaviours evolve over time.

“The digital therapeutics market is like the beauty industry – there is so much out there that you're overwhelmed with choice... many simply give up looking”

Often we hear about how these tools are helping patients. How can they make clinicians' jobs easier?

SA: One of the healthcare apps I worked on was for a new treatment for age-related macular degeneration. If you were eligible, the new treatment was proven to be more effective than the established treatment.

The core design challenge was changing patients' behaviour to improve their adherence to treatment and clinical appointments. The new treatment involved an injection in the eye and for it to work, the patient needed to complete all of their loading doses once a month for almost a year. Understandably, people who had lost their sight were willing to receive the injections to begin with. But, as their sight began to improve, many then stopped as they felt their improved sight was good enough and they preferred not to receive further injections. This caused them to lose their sight again.

The team's research and design solved this problem by combining behavioural insights with proven psychological principles to identify features that would trigger and motivate patients to adhere. On launch, the smartphone app was up and running quickly, while priming users to associate their health goals with underlying non-health goals that they were more emotionally invested in.

One month is a long gap between appointments, so the app provided

a step-by-step plan over the next few months, regular tasks to increase engagement and strengthen recall of their non-health goals ensured that the benefits of the injections remained at the front of their minds. After completing initial research and prototype development, the team carried out qualitative research with real patients and improved the interface to optimise the behaviour change elements of the app.

If we continue to use the example of wearables, the nature of the data they are able to provide has huge potential benefit for clinicians. People living with chronic diseases who manage them poorly often do not record all of their results or choose to only share the 'good' results with their HCPs, in order to impress them or avoid feeling criticised when attending clinic. Wearables don't just make recording results effortless; they also normally do not allow results to be edited by patients allowing HCPs to understand what is really going on in their patients' lives.

“The lack of real-world evidence is a huge issue. While studies like those for Clickotine are becoming more common, they are the exception rather than the rule”

So, are doctors using digital tools in a clinical setting?

SA: We're currently seeing more HCPs prescribing apps as treatment in the US than the UK. [Clickotine](#), for example, is a personalised smartphone app prescribed in the US for smoking cessation. A study with more than 400 participants found that this app enabled the majority of users to stop smoking, some permanently and others temporarily.

While digital therapeutics are flooding the market, clinicians' uptake of these technologies is comparatively low. Why do you think that is?

SA: The lack of real-world evidence is a huge issue. While studies like those for Clickotine are becoming more common, they are the exception rather than the rule. There are many reasons for this. Healthcare is complex and differs hugely from other sectors. The technology needs to be fit for purpose. However, not everyone designing healthcare apps has the appropriate educational and professional background, and the app gold rush has also meant that many developers did not collaborate with their end users. [Without an understanding of the needs and behaviours of the people using them, many tools have not delivered the outcomes they promised.](#)

Getting a sense of the patient's and HCP's needs is vital for solving these challenges. Demands on the HCP's time is one of the biggest problems, and the number of people with chronic diseases is growing, but the resources are not. It's difficult for HCPs to keep up with what's available today, and what they can trust and recommend to patients.

We need to help HCPs to make sense of apps and wearables, the data they provide, and where they can add value to themselves and their patients. There is so much data to analyse and understand in a 15-minute consultation. [HCPs need the time, training and tools to know how to identify and interpret insights from the data, so that they can use them to improve their patient's treatment and care.](#)

SA: Most apps on a smartphone don't involve treatments in the body. The well-established stages in the clinical trial process rely on increasing sample size for good reason. Starting off with a small sample will limit risks and reveal the side effects. This process is ingrained in pharma, but not in tech. Traditional clinical trials can last for years, meaning technology companies can fear their tool will become outmoded by the time the trial ends, when trials are actually valuable opportunities to learn and improve the technology over time.

What's stopping healthcare technology companies from generating robust evidence that counters these objections?

Technology companies need to allow time for trials and for classification of software as medical devices, but they are frustrated. They know it is vital to ensure the evidence generated by the technology is watertight, but they are also aware that these tools may not expose patients to the same amount of risk as a medicine.

Additionally, regulators struggle to keep up with the technological changes, making it problematic for healthcare tech companies looking to partner with pharmaceutical companies. It also makes market access and reimbursement highly challenging.

Although some regulators, such as the FDA, have developed guidance around digital health, others have not. These are all issues pharmaceutical and technology companies have to navigate in order to generate the evidence HCPs require.

To find out how we can help you design innovative solutions for your healthcare customers, contact stewart.anderson@bluelatitude.com

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What could pharma do to help improve the adoption of these tools?

SA: The unifying theme of digital health technology is empowering patients. Giving people control over their health is the future, but the vast majority of patients aren't currently invested enough to look for an app on their own. It's about understanding the end-user's needs and designing tools that really solve their challenges – that's the first step in developing innovative technology. Start by identifying and understanding the most valuable problems you need to solve. By doing this we can help more HCPs to believe in and have confidence that these tools work. Then they would recommend them to patients, allowing richer collaboration to improve outcomes and strengthen the relationships HCPs have with their patients.





Digital therapeutics and their impact on society

By Elisa del Galdo

Head of Customer Experience Elisa del Galdo explores how healthcare technology can help chronic disease patients and asks what makes a good digital therapeutic?

In the 20th century, research, technology and new novel treatments have enabled us to increase the average lifespan by 25 years, but our healthspan has not increased accordingly. We live longer, but not necessarily better – unfortunately, our quality of life has

not improved throughout these added years. This is in part due to the explosive, bordering on unmanageable, increase in chronic diseases, such as cardiovascular disease, diabetes, Alzheimer’s disease, obesity and asthma.

Often these conditions are not experienced in isolation, resulting in many patients managing two or more comorbidities, leading to complex health problems that are more difficult to monitor and manage.

The World Health Organisation reports that by 2020 chronic diseases will account for three-quarters of all deaths worldwide and will reduce the quality of life for patients and their caregivers.¹ With the average cost of managing comorbid chronic patients in the UK estimated to be eight times that of a relatively healthy patient, the economic impact of these illnesses on healthcare systems is immense.

To solve this problem, our systems must be more efficient and more effective in the management and prevention of chronic diseases.

Digital therapeutics, such as smartphone apps and wearable technology, can be used to relieve some of the pressure. They can be used in a multitude of ways to support the effective delivery of healthcare.

This includes monitoring, motivating, changing behaviour, facilitating communication, and helping to manage processes, all while collecting valuable data. When done well, these tools can facilitate more meaningful interactions between patients and healthcare professionals.

“By 2020 chronic diseases will account for three-quarters of all deaths worldwide”

WHAT ARE DIGITAL THERAPEUTICS?

Digital therapeutics are digital, evidence-based therapeutic interventions for the prevention, management or treatment of a medical condition. They are used independently or in combination with other treatments to track symptoms, to deliver content and facilitate communications with healthcare professionals.

These tools are designed to optimise outcomes for patients and support their providers in delivering healthcare. The technology can give patients more independence, but it can also provide healthcare professionals with real-time insights and evidence-based data on the patient’s condition, enabling more connected and effective treatment, leading to a more collaborative approach.

Digital therapeutics are not created to replace the physician, instead, they are aids designed to help them be efficient and more effective, improving the experience for all stakeholders.

The benefits are far-reaching and cross a multitude of therapy areas, with one recent report on 571 efficacy studies and 234 randomised controlled trials showing statistically significant results in five chronic disease areas – diabetes prevention, diabetes, asthma, cardiac and pulmonary rehabilitation.² These studies investigated the quantitative

value of digital health apps and connected devices and include metrics such as weight, blood sugar control, depression scales and hospitalisations. The authors concluded that the vast majority of these studies have shown statistically significant benefits for health outcomes.

TOOLS FOR PERSONALISED CARE

Traditionally, healthcare has been delivered through a one-to-one model in which patients visit the doctor and receive treatment. However, these short appointments rarely give doctors an insight into the reality of the patient's experience, their behaviour and how these factors are impacting their condition and quality of life.

In these sessions, healthcare professionals rely on the patient's memory and their perception of the important symptoms, rather than more nuanced factors impacting their health or the success of their treatment.

This one-to-one model of delivering healthcare in a very short space of time is not sustainable. Industry and healthcare systems are striving to develop a personalised patient care model that can serve and account for the variability in stakeholders' needs and capabilities. For this new way of treating patients to succeed, we need technology to not only track, but more importantly to inform, and influence behaviour for better outcomes.

Additionally, we need a system that supports healthcare professionals to do what they do best – use their judgement, emotional intelligence and provide the attention to detail.

While digital therapeutics can support the one-to-one model by making the conversations between the doctor and patient more productive, the technology can also provide 'treatment' for the patient at the most effective time, which is rarely during a 10-minute doctor's appointment.

Understanding the things that make a patient unique – their environment, behaviour, needs and the genetic basis of their disease over time – is essential. Digital therapeutics can collect this information about the patient outside of the clinic, to ensure the doctor has a continuous view and care can be delivered when needed. When designed well, this enables healthcare professionals to efficiently understand the nuanced factors that impact a patient, their illness and their quality of life.

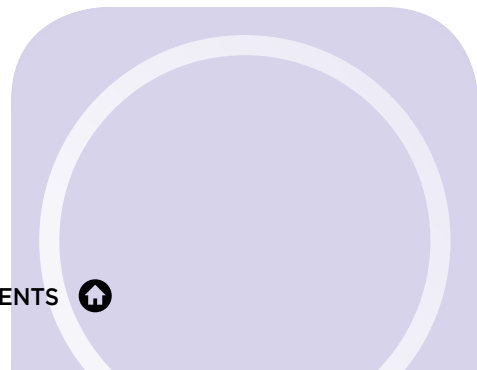
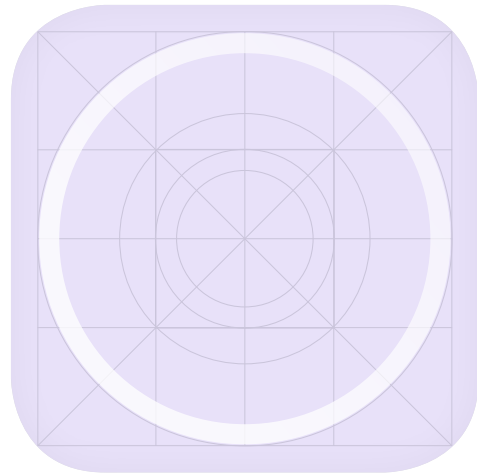
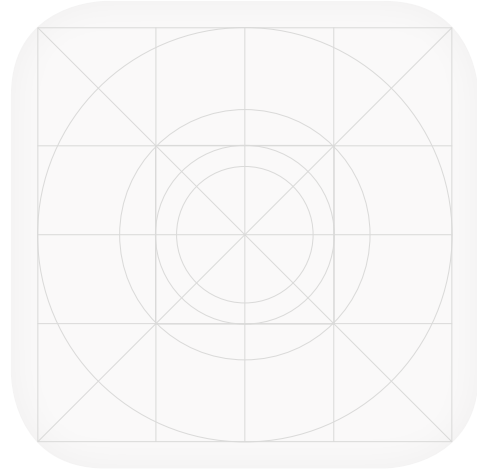
Two recent examples are Medisafe – an app that uses artificial intelligence (AI) to improve patient adherence – and Medopad, a modular app for remote patient monitoring.

Medisafe is a personalised medication management platform for tracking adherence. In the US, 700,000 people a year will either over or underdose, resulting in 125,000 deaths. Medisafe looks

to solve this problem by using AI to enable the personalisation of medication management. The technology uses algorithms and micro-segmentation to analyse the causes of non-adherence and then identify what will motivate adherence, all powered by machine learning.³

Medopad's technology is focused on providing bespoke patient monitoring across multiple disease states and geographies. Using a combination of artificial intelligence, data analysis and a strong understanding of user experience, the company has developed a platform for creating modular apps which can be personalised across numerous patient types. The platform is comprised of more than 100 modules designed to capture different types of data and can be linked to wearable devices and retain test results. The modular nature of the technology allows healthcare organisations to create a tailored patient solution that addresses specific needs and challenges.⁴

“In the US, 700,000 people a year will either over or underdose, resulting in 125,000 deaths”



The underlying foundation of almost all digital therapeutics is the ability to track and collect data, but it isn't just about what is tracked and collected. More important is what is done with the data and how it is used to modify patient behaviour, communicate longitudinal patient evidence, and inform treatment decisions to deliver better outcomes and experience.

For a digital therapeutic to be successful, it has to be fit for purpose. This means reducing the burden of care, delivering healthcare effectively and efficiently, and improving the patient's quality of life. It also means catering to the variety of individuals who will be using the tool, from the patient and caregiver to the various healthcare professionals interacting with the patient, and the relevant stakeholders working across the healthcare system.

In 2017, the US Food and Drug Administration (FDA) approved the first digital pill. What makes the technology innovative is not the pill's groundbreaking ingestible sensor system. Instead, it's the application of the technology to successfully meet a substantial unmet need.

In the US alone, just 25% - 50% of patients worldwide take their medications properly.^{5,6} Proteus' digital pill was designed to solve this challenge

by using cutting-edge technology to track patient adherence to medication and its impact on their outcomes.

The pill contains a sensor, which is about the size of a grain of sand. This sends information to a small wearable patch worn on the abdomen. The data is then transmitted to an application on a mobile device and a provider portal. Importantly, objective data is not just provided to physicians to help them measure treatment effectiveness and optimise therapies, the patient can also authorise other individuals to see the information. This means a carer for a patient with a condition such as schizophrenia or bipolar disorder can be alerted if the patient does not take their medication. Additionally, the pill can be used across the industry to facilitate more accurate clinical trials.

Since the approval of the pill, the organisation has proven that the technology can be used across chronic diseases, including cardiovascular disease, diabetes and HIV, and now the company is moving into the oncology space.

The smart pill's success lies not just in its novel technology, but in the organisation's in-depth understanding of its stakeholders' journeys and the needs that they reveal, from the patient and carer to the healthcare professionals and the clinical trial designers.

THE SECRET BEHIND TRUE INNOVATION

There is no one-size-fits-all solution for healthcare – age, gender, socioeconomic status, culture, condition, and health literacy are all factors that need to be considered in the design of digital therapeutics.

It is important that designers clearly understand the problems they can solve from the perspective of all the individuals that interact with the technology. This means speaking to a complex network of stakeholders across the healthcare system with a view to clearly understanding their needs and challenges and translating them into the design of systems and tools that are fit for purpose.

New technology is not always the answer, and innovation is not just about new technology. Usability and user experience design are key, but these principles must go hand-in-hand with a solution that provides validated clinical outcomes. All of this needs to be encompassed in a digital ecosystem that reaches all stakeholders and can be individualized to a patient's needs. Importantly, this ecosystem must support healthcare professionals in delivering what they have been trained to do, provide excellent healthcare.

At Blue Latitude Health, we can help you uncover your stakeholders' unmet needs and develop services to meet and exceed them. For more information, get in touch with elisa.delgaldo@bluelatitude.com

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DESIGNING A GLOBAL DIGITAL PATIENT SERVICES PLATFORM

Within our customer experience capability at Blue Latitude Health (BLH), our user experience researchers and designers are tasked with understanding customer and client needs, in order to drive innovation and to solve real problems.

By Elisa del Galdo

Recently, a client required a centralised system to drive the development and deployment of data-driven patient services. They wanted the design and build of the patient services to be centralised and accessible by local markets for localisation.

There was the added complexity of ensuring the new platform would support innovation in patient services coming from local markets. This is how we rose to the challenge...

1 UNDERSTANDING THE BUSINESS CHALLENGE

We started by examining the organisation's current workflow and uncovered the following challenges:

- Patient services were globally developed in isolation across the organisation and lacked a culture of learning and reuse
- The delivery of patient services to local markets was costly, arduous and lengthy
- Services were being created without using evidence-based techniques to ensure they were delivering on the promised outcomes
- The needs of the local markets were not taken into account, making the uptake of services 'not created here' unlikely
- There was a variety of pre-existing service design capabilities, initiatives and intellectual property, but many were hidden from the local markets.

2 GATHERING INSIGHTS FROM STAKEHOLDERS

We then captured stakeholder requirements and progressed the design of the solution using a user-centred service design process.

To begin, we conducted qualitative interviews with internal stakeholders, including the core digital team, IT, service designers and local markets, to ensure that we had developed the insight needed to clearly understand all of the challenges and to inform the design of the solution. We then used these insights to define user cases and requirements.

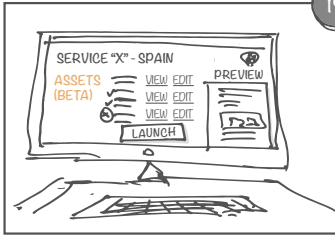
3 MAPPING THE SERVICE DESIGN ECOSYSTEM

The next step was to create a service blueprint with the core team, which was validated by both global and local stakeholders.

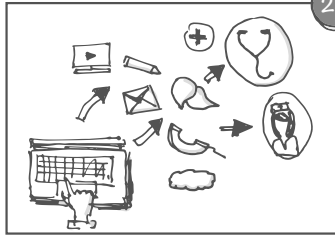
A service blueprint is essentially an extended customer or user journey. Traditionally, a customer journey focuses on a single user, mapping their interactions, behaviours, unmet needs, emotions and touchpoints along a specified time scale or defined task.

The purpose of the service blueprint is to map the processes of a number of actors within a service ecosystem. This is done visually by assigning a process or actor to a 'swim lane' and visualising interactions and tasks within and between swim lanes to represent the flow.

LOCAL MARKET CREATES LOCAL VERSION



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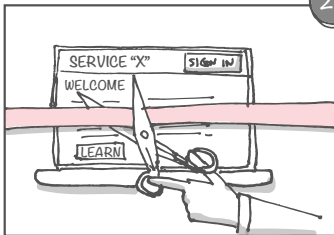


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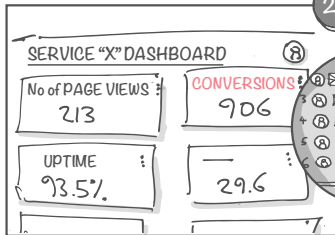


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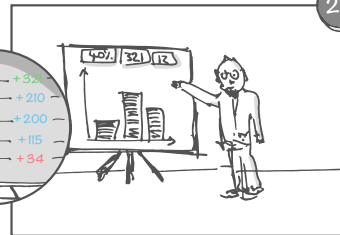


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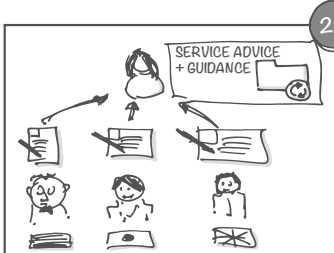


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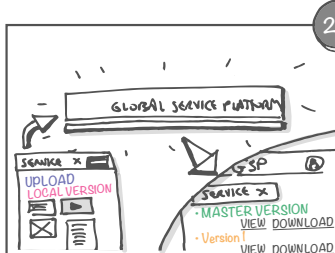
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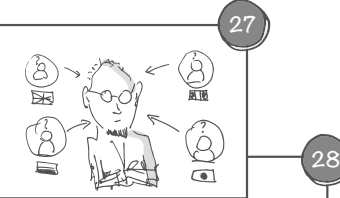
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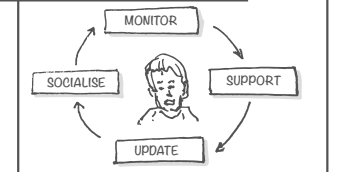
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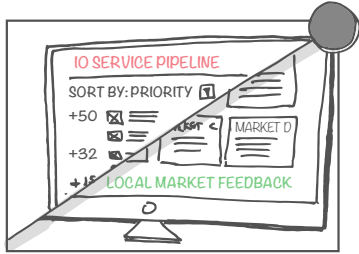
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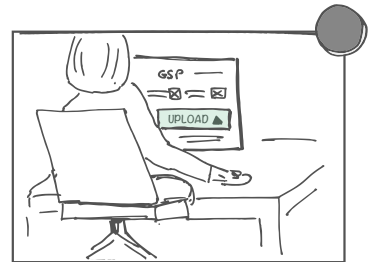
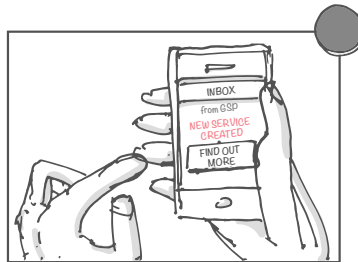
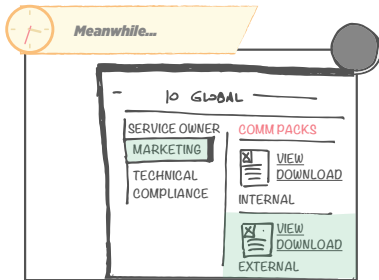
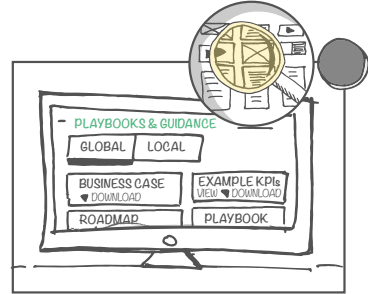
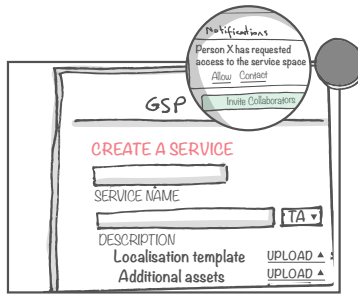
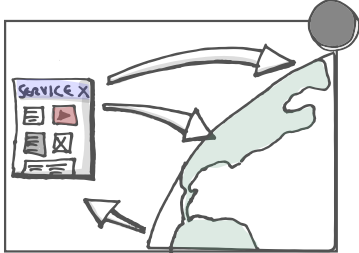


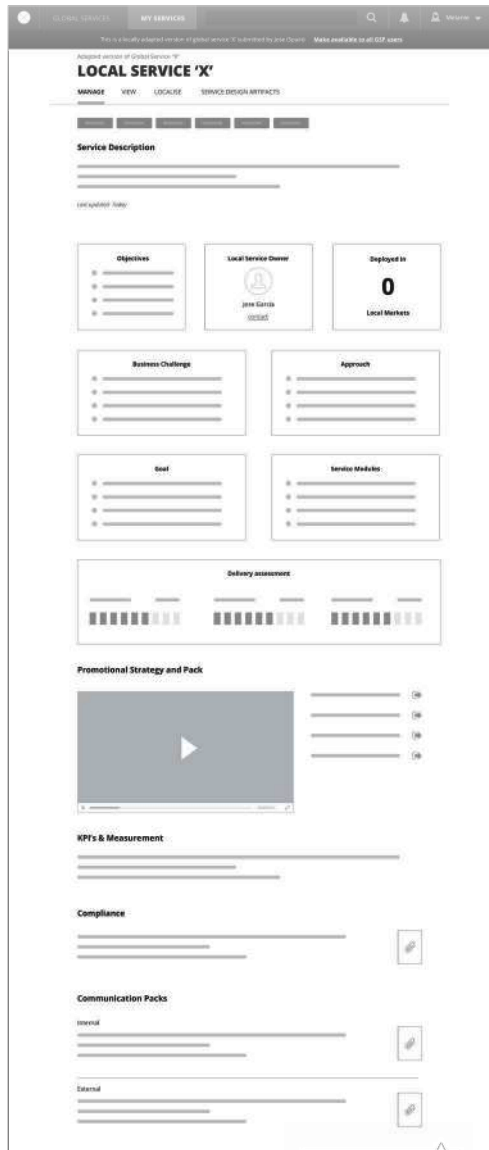
4 STORYBOARDING

The service blueprint was then used to create a storyboard, that was produced using co-created validated insights.

The storyboard communicates the intended purpose of a service in a visual language that everyone can follow and understand. It shows the proposed solution without the need to focus on the interface design or technology, telling the story from the user's perspective.

GLOBAL SERVICE PLANNED AND CREATED





[Unread](#) | All

New local version
A new local version of your global service 'X' has been submitted as final by Jose Garcia

[View](#)

5 DEVELOPING THE WIREFRAMES

The blueprint and the storyboard provided the details required to design the service. We created low-fidelity wireframes and early prototypes that were evaluated and refined through workshops and usability testing, informing the creation of more detailed designs. These were created with the internal IT stakeholder to ensure that the organisation's existing technology would be incorporated to ensure reuse, where possible.

6 THE PLAYBOOK AND DEPLOYMENT MODEL

As part of the delivery, we created a playbook and deployment model to provide support and guidance to the organisation. This helped to ensure that all stakeholders had the information required to understand, implement and use the new patient service platform.

The deployment model was created to illustrate the development and approval processes, to evidence outcomes and to track approvals. It also provided 'live' versions and key performance indicators, including meta-data on the performance of the service. Importantly, it showed how to create and deliver a base model of each service that was easy for local markets to localise.

The model was essential for ensuring the quality of the platform-distributed patient services and providing a mechanism for bringing in locally created patient services onto the platform.

Meanwhile, the playbook provided a step-by-step guide to using the platform, ensuring all stakeholders understood their roles and responsibilities.

7 ROADMAP FROM DESIGN TO MINIMAL VIABLE PRODUCT

We then worked collaboratively with the core team, IT and key stakeholders to create a roadmap aligned to global and market priorities. It was used to inform the minimal viable product launch timelines and the creation of a more fully formed platform over time. It also gave details of how already existing digital initiatives could be incorporated.

What is a user-centred approach?

User-centered approach involves an iterative design process in which researchers focus on the deep understanding of users needs and challenges and designers focus on the identification of solutions to address them. The approach involves users throughout the process via a variety of research and design techniques, to create fit-for-purpose solutions.

THE BENEFITS OF A USER-CENTRED APPROACH

We designed the patient services platform following a user-centred service design process that ensured all the challenges were identified and addressed and needs were met for every stakeholder. This ensured improved engagement from local markets.

Delivery of the initial service blueprint showed stakeholders that their needs were being addressed, while simultaneously informing the design. The storyboard provided a tool to communicate the purpose and the value of the platform, and the playbook, deployment model and roadmap gave support and guidance for the implementation and use of the platform. All this contributed to the successful delivery of the patient services platform design and the associated guidance to facilitate the efficient and effective delivery of global patient services to local markets.

At Blue Latitude Health, we're skilled in commercialising novel therapies, from initial strategy to creative execution. For more information, get in touch with simon.young@bluelatitude.com

Rethinking Electronic Medical Records

Natasha Cowan



Dr Dave Pao has the unique ability to understand the electronic medical record (EMR) from the perspective of a doctor and a design engineering PhD student, enabling him to understand both the clinical needs and user experience drivers behind this complex technology. Here he explains why EMRs are attributed to physician burn out and how his provotype could solve this challenge.

Imagine a world where medical records are never lost, doctors and hospitals are more efficient, and no matter where you are, your physician can access your notes at the click of a button. That's the attractive promise of the electronic medical record (EMR).

Hospitals across the western world are buying into EMR systems. The prestigious Great Ormond Street Hospital in London has just embarked on a £50 million project to digitalise its paper records. Walk through the hospital corridors and you will spot banners with slogans such as 'Future Proof' and 'We can do this,' designed to assure doctors of the benefits of the new technology.

In New York City, Mount Sinai also began implementing an EMR system as early as 2005 in a bid to go paper-free and to ensure many of the hospitals systems are connected through one technology provider. Despite this, in 2019, the technology is yet to be fully applied.

The hospital says this is to minimise disruption; however, mounting evidence suggests the most popular EMR systems are not fit for purpose.

With one [recent report](#) revealing 95% of clinicians associate EMR usability with burnout, it's clear the technology is not living up to the hype. A lack of user-friendly interfaces coupled with little capability for interoperability is frustrating physicians and impacting their relationships with patients.

One doctor is trying to change this. Dr Dave Pao is both a clinician and a design PhD candidate at the Royal College of Art, London. He has more than 20 years' experience working as a doctor in sexual health and HIV and he has experienced the negative impact of EMRs first hand. Now, he is championing the design of EMR through visual provotyping, which aims to solve some of the clinician's biggest challenges when using the technology in a clinical setting.

["I realised how much the EMR was affecting my performance as a doctor,"](#) he explains. ["Patients would get up to leave and I would still have two minutes of clinical coding to enter before my next appointment. As they were walking out the door, I would be typing while saying goodbye. It's damaging for the doctor-patient relationship."](#)

AN INCOMPLETE HISTORY

Often, EMR systems will ask the doctor to click through multiple screens and check numerous boxes or dropdowns when entering data. But data entry is the least of their problems - the ability to access data in a meaningful, intuitive way is woefully difficult and often the data is presented in its raw form.

There is a lack of design knowledge around how to support the clinician in their exploration of patient data, otherwise known as clinical reasoning. This is frustrating healthcare professionals, who are already limited to a 10-minute appointment and

cannot afford to waste time navigating troublesome systems, while tending to the patient.

As part of his research, Dave surveyed clinicians working in sexual health and HIV across England. He found the number one source of dissatisfaction was this failure to give an overview of the patient's history. Knowing a patient's previous history is the key to good clinical practice because it puts everything into context. This leads to the second criticism - a lack of eye contact with the patient due to the amount of time spent looking at the computer screen.

“Using our current EMR system, which has 70% market share in the speciality, I cannot succinctly view the patient history on one screen. Instead, I have to double-click each individual visit. It's untenable for me to double-click through each consultation, because, in addition to the time taken to access the notes, each episode takes a minute to read,” he explains.

For some appointments, this can be irritating. But for others, it can lead to serious medical errors or psychologically impact the patient and result in a loss of trust in the physician.

The clinician then opens a new template to enter data for the current consultation which takes them through a pre-determined set of questions, and often they do so without full knowledge of the patient's previous history.

“Last year I was sitting in front of a girl, she was about 21, a student at the university. She had visited us 10 times over the past four years and seven visits ago she had been sexually assaulted,” says Dave.

“One of the questions was 'have you been a victim of sexual assault?' She just looked at me and burst into tears and said: 'well, two years ago I was raped, and I was sitting in this chair talking to a doctor who was sitting in your chair.' Then, they always do the same thing, they look at the screen and say: 'is it not in there somewhere?' And, of course it is, but it's hidden deep down inside the system. You're always on the back foot because you know the patient knows more about their history than you do – that's a terrible feeling.”

A SCIENCE AND AN ART

According to Dave, EMRs are failing because the designers view the clinical consultation as a process with distinct tasks, rather than an unfolding, unpredictable conversation.

“I'd really like EMR designers to understand that from the second a patient walks through the door and sits down, it is furthest away from a fixed, linear 10-minutes than you can ever imagine.”

“There is nothing steady and static about the clinical consultation. It's not primarily about getting tasks done. It's first about letting the data unfold and looking at the patterns. That's one thing EMR designers do not consider, they try to nail down a

checklist and I think consultations are the opposite of that,” he says.

This is in part due to a failure to understand the ‘art and science’ of clinical practice – the scientific and human sides of medicine.

The clinical consultation is both a data analysis exercise and an exploration of the patient’s perspective. However, a lack of collaboration between user experience designers and healthcare professionals means the system does not facilitate clinical reasoning.

“Right now, an EMR is a glorified database. All you can do is type. You can’t easily annotate or summarise. The major advantage of digital over paper is that data in does not have to be the same as data out. Across 10 visits, 10 different doctors or nurses could have entered loads of data, but what I need, when I’m retrieving the information, is a system that helps distil this information into clinically-relevant patterns.”

“I believe that healthcare is one of those weird disciplines which designers think is really complicated and so they are scared to introduce risk. But actually, if they had sat down with any doctor or nurse, they would see that our work is not really a science, it’s a practice that uses science,” he explains.

“Most designers would look at this practice – the art and science of medicine – and they wouldn’t know where to start, so they don’t want to even try. They don’t

want to get anything wrong. They want to make an impact on EMR interfaces, they really do, they just don’t have access to the clinical expertise. Whereas if you look at patient-facing apps, where the designer naturally understands the patient viewpoint, some of them have nailed it.”

TRUE INNOVATION

Frustrated by the systems used widely across the UK, Dave is combining his experience as a physician with his PhD in Innovation Design Engineering to develop an innovative EMR interface that uses data visualisation to paint a concise picture of the patient.

Central to his approach is dual process theory, which hypothesises that cognitive processes are divided into two categories. First, we think quickly, recognising patterns and using our intuition. Then, we think slowly, using our logic and cognition to reason with the data.

Current EMR systems do not support the fast and slow thinking phases, which are dependent on understanding trends and patterns. Instead they demand slow phase thinking throughout, which causes fatigue.

“The bottom line is that physicians need data that we can navigate and explore. At the moment the EMR is not geared up for clinical reasoning and cognition, it’s just geared up to store data,” he reveals.

Dave’s prototype takes the data and visualises it, illustrating patterns over time.

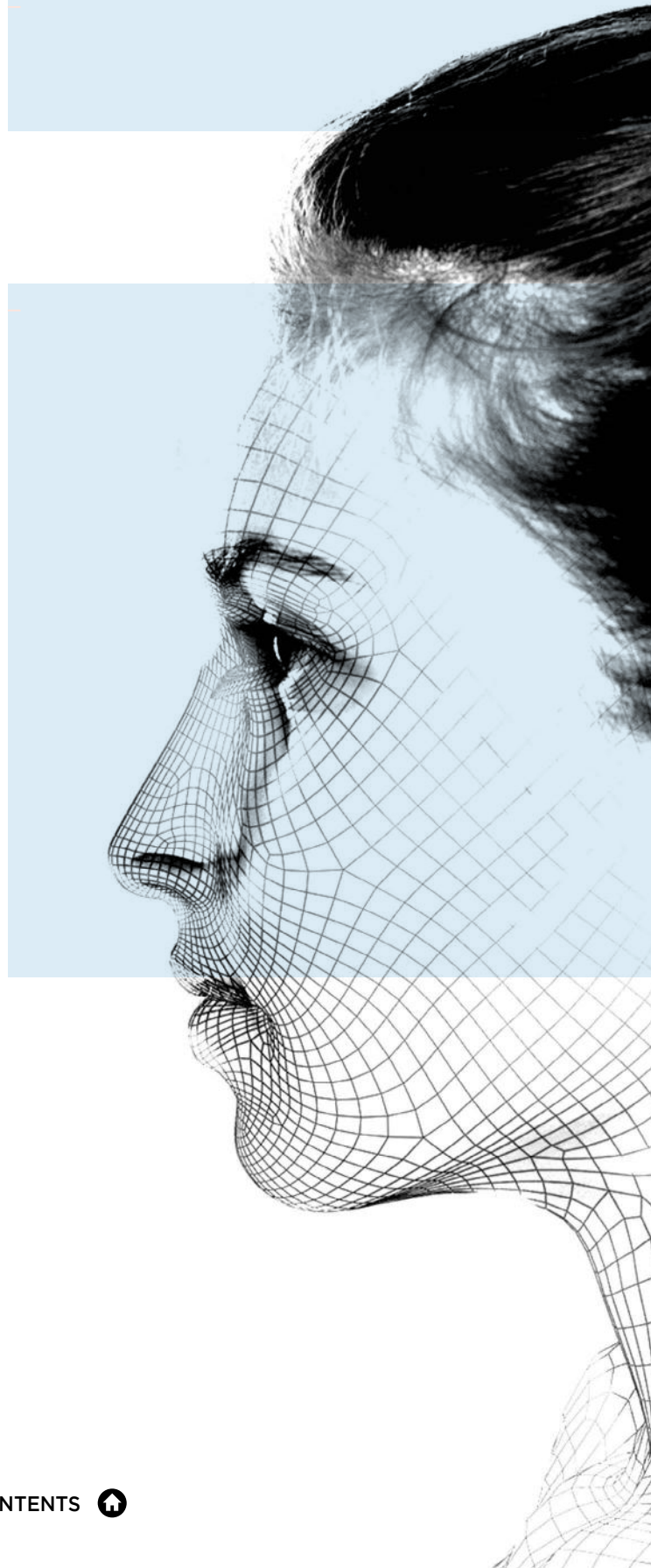
As a result, the clinician can see the patient's entire history, their test results and the basic information contained in the EMR on one screen. This is invaluable for ensuring appointments are efficient and effective for both the patient and the doctor.

A provotype is a provocative prototype, introduced in the design development process to cause a reaction - to provoke and engage people to imagine possible futures. This is different from a prototype, which tends to be closer to the representation of a design idea.

“It's not the provotype itself that is important, but the visual provotyping approach. Central to the process of design is the drawing, sketch, or doodle, which can then be collaboratively modified or redrawn – a visual conversation. This gives computer programmers a tangible insight into the way clinicians think, in a way that questionnaires, interviews or essays never could,” Dave says.

“The data mirrors clinical reality, it's anchored to clinical practice. All the information is in order for when the patient walks through the door – their history, the nature of the examination and the tests they have done. There is a pattern there that all clinicians recognise.

“That data ripples out, not just between me and the patient, it ripples out to the organisation, out to Public Health England and NHS England, out to the researchers. To have reliable, verifiable, clinical data collected at the point of care is really valuable.”



CHANGING THE RULES OF THE GAME

Dave's goal is to understand what clinicians need from their EMR to support clinical reasoning. As a result, he is consulting other clinicians on the ground to find the root cause of their challenges. Aside from surveying all UK doctors working in sexual health and HIV, he is also taking his provotype to workshops to test drive it and iteratively improve the technology.

He has used this information to take his research one step further, developing a series of usability principles that are specific to healthcare. These rules guide designers, helping them to build digital technology for doctors that is fit for purpose and meets their wide range of needs. Importantly, the principles ensure healthcare professionals can recognise trends and liberates them to draw conclusions that benefit the patient.

“They are really basic things – it gives me a good overview of the patient history without clicking too much, salient social and clinical data is always visible at a high level, I do not have to jump out of different screens, previous history pulls through so I don't always have to ask about the patient history,” he reveals.

PHYSICIANS OF THE FUTURE

The future looks bright for Dave. His provotype has been a hit with healthcare professionals. During his initial survey, 60% of sexual health and HIV doctors in England described EMRs as having

unfavourable usability. After he conducted the same survey about his provotype, this number dropped to 5%, and he is still iterating his design based on the comments of those few healthcare professionals with criticisms.

However, well-designed EMRs are just the first step in developing a more patient-centred clinical appointment, as Dave explains: “The old-fashioned patient model is one of patronage – the patient thinks there is something wrong with them, they go to the doctor and the doctor tells them what to do. In years to come the patient and the doctor will meet, or the artificial intelligence bot and the patient will meet, and you will be in this space where the doctor will guide the patient through a shared interface, rather than telling them what to do.”

“It's an exciting time to be working in healthcare and with digital health there is so much potential to really make a difference to patients' lives.”

Blue Latitude Health is experienced in digital health and developing services that are fit for stakeholders' needs. To find out more, get in touch with elisa.delgado@bluelatitude.com

Following page: Dave Pao's provotype design visualises crucial patient data on one screen.

Reference

1. <https://www.spok.com/clinicianburnout>

History Episode

New Episode

Allergies: ▼

Medication:

PMH / FH: ▼

Obstetric Hx: ▼

ALERTS: ▼

Psychosocial:

HIV Risk: ▼

VAX: ▼

Patient X

25y

Patient ID: 7b

D.O.B: 08/07/1990

10/07/2012 - T4, P2A, SW

17/07/2012 - P2B, SW

30/07/2012 - P2C, SW

02/17/2012 - T4, P3, SW

12/12/2012 - T4, P3, SW

04/01/2013 - T2, P1B, SW

10/08/2013 - T4, P2D, SW

12/04/2016 - T4, B, A1, SW

19/04/2016 - T4, SW

12/07/2016 - T4

23/10/2017 - T4, C4

27/10/2017 -

History

Attends after UPVI with client 3/52 ago. Feels unwell. Yellow vaginal discharge, some abdo pain

PSH

Split up from RMP (6 years). Recent client (3/52) refused condom use, offered her more money. UPOI, UPVI and some biting

Contraception

Examination

Copious yellow vaginal discharge. Cervix inflamed. Nodes R>L. Bimanual NAD. Lesion left inner labia - says where was bitten. Looks like healing bite - HSV swab taken

Treatment

Ceftriaxone 500mg IM, Azith 1g stat, Doxycycline 100mg BD 1/52

Plan

Discussed GC (Cx and Th). Risk of Cef allergy low - agreed to this.

Investigations

	UA	PT	TV	HIV
POCT:	■		■	■

	GEN	REC	THR	Other
Microscopy:	■			
GC/CT PCR:	■ ■	■ ■	■ ■	
Other PCR:				■
Culture:	■	■	■	

	HIV	STS	HBV	HCV	Other
Serology:	■	■	■	■	
Load:					

HA Template

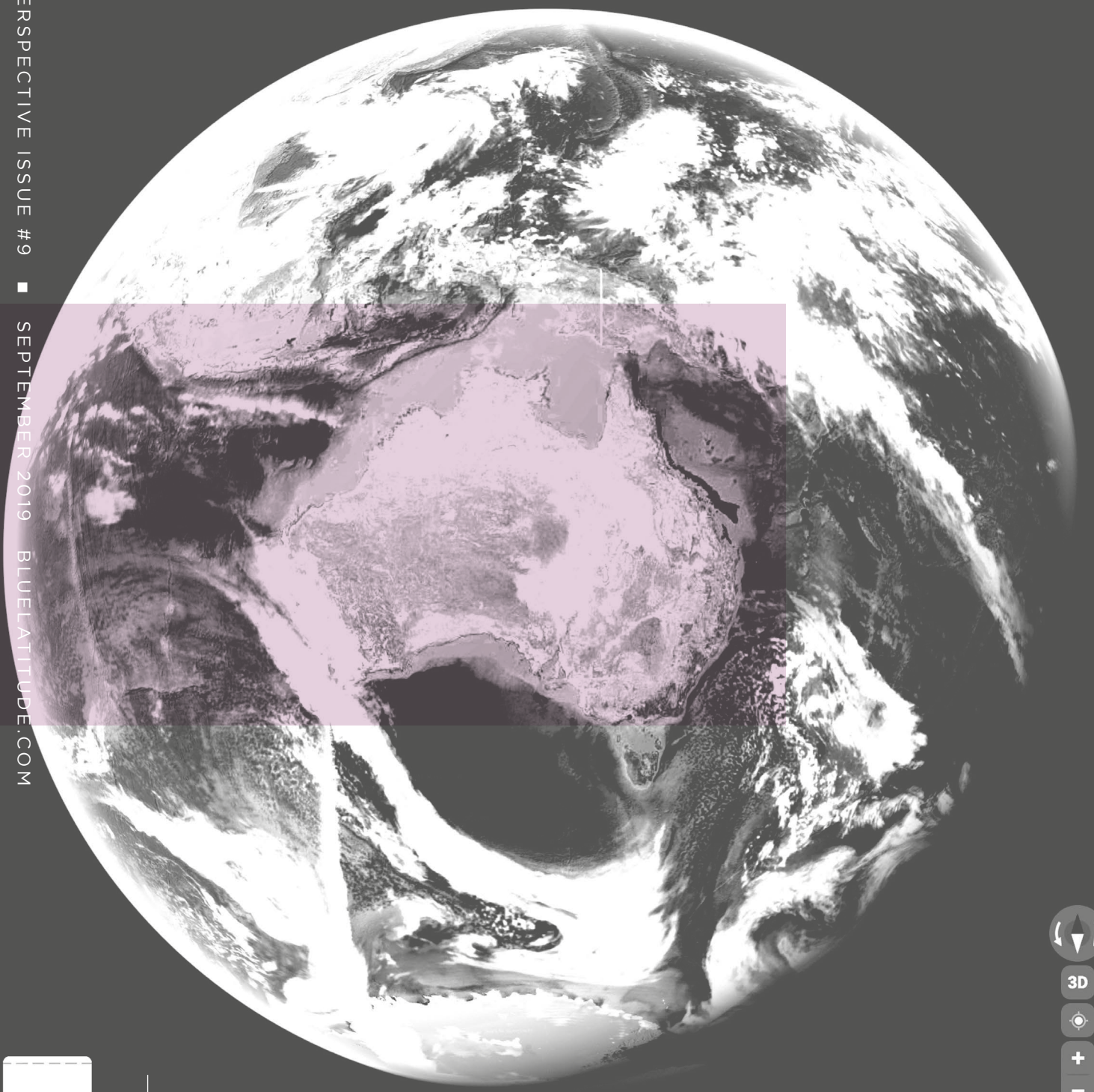
GC on microscopy today. Rx'd. Advised no SI for 1/52 until TOC. Unable to contact clients. No RMP. Discussed UPVI and increased risk. Finding things difficult since split with RBF (went to prison). Finding it hard to work, as has left sauna after disagreement with boss. Works streets sometimes.

VAX

33 \ 52

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Digital nation

How Australia became a digital health pioneer

By Jack Reinsfield

Rachel de Sain is one of the women behind Australia's groundbreaking digital health strategy, which resulted in 90% uptake of electronic medical records across the country. Here she shares her story and the insights she learned along the way.

The use of the internet and modern technology such as, smartphones, apps, cloud storage and extensive data analytics has vastly changed the way that humans interact with one another. With the advent of these technologies, and the many benefits they bring, it is of little surprise that governments worldwide are looking to leverage new digital tools to improve the delivery of healthcare.

Australia is one such country that has vastly increased its uptake of digital healthcare. For example, its national patient health record, called 'My Health Record', is a consolidated digital summary of Australian residents' medical information and has more than a 90% participation rate – the highest participation rate in a novel national health record system in the world.

While the national health infrastructure development has been ongoing for more than a decade, in 2016 the Australian government established the Australian Digital Health Agency (ADHA) to accelerate the delivery and realisation of the benefits of digital healthcare and to develop and implement a national digital health strategy.

Blue Latitude Health spoke with Rachel de Sain, an internationally renowned digital strategist, CEO and founder of Codesain strategic advisory firm, and the former Executive General Manager responsible for innovation, design and development at the ADHA. She reveals what she learned while overseeing the creation of Australia's Digital Health Strategy, 2018–2022 and how she improved a number of digital health products and services, which have been built into the national infrastructure – including 'My Health Record'.

So, how did you get into digital health advising?

RACHEL: I left New Zealand and arrived in London in 1998, where I started developing websites and then moved onto interactive TV and mobile. I noticed how this digital revolution was creating change, not just within businesses or personal communications, but more broadly how society was changing.

Unfortunately, I then got quite sick and just trying to interact with the health system I thought ‘this is ridiculous, how come we’re not actually using any of this technology to change how we think about healthcare?’ That planted a seed for me.

Many years later, I moved to Australia and worked in a range of roles and projects delivering digital transformation. In 2016, I started working for the ADHA as an executive running the strategy and innovation for digital health. Last year, I decided to leave government and return to independent advisory work, which I enjoy.

How do you describe digital healthcare?

RDS: I hope that it isn’t always called digital healthcare; it’s just healthcare in the future. Organisations used to have a mobile department or a digital marketing department, but companies now just have marketing departments and social and digital are a component of that.

In terms of what digital healthcare means, it is still a bit varied, but a good definition would be the one the US Food and Drug Administration uses which focuses on the why – using technology to achieve an outcome, like reducing inefficiencies, improving access, reducing cost, increasing quality and making sure medicine is more personalised for patients.

Why has digitalising healthcare been so important for the Australian government?

RDS: We’re such a huge country and I think that played a factor in driving us to rethink how we deliver healthcare to ensure someone in the Outback has the same services and access as someone in a state capital. The Northern Territory, for instance, was one of the first to start using electronic health records. Australia was also quite advanced in terms of telehealth and online mental health solutions and considered real pioneers in that space.

How did you define Australia's digital health strategy?

RDS: Strategy is about creating a map of where you want to be and how you want to get there. It needs to reflect the views of the people.

My team at the ADHA took co-design as a key methodology for how we wanted to write the strategy. We spent a lot of time engaging with loads of different people – start-ups, big industry, small industry, patients, carers, clinicians, all sorts of people – to ask what do you think the future healthcare system should look like? What role should digital play? How can we work together and collaborate to change policy and regulation? What needs to change? And what are the priorities to help us get there? Then, we could focus on where we spent the money and how we supported the various players to make that happen.

“Strategy is about creating a map of where you want to be and how you want to get there. It needs to reflect the people”

Does every country need a digital health strategy?

RDS: Every country needs a healthcare strategy that understands what role digital can play in helping it to achieve its goals. It starts with the patients but needs providers, industry and government to work together to be successful.

We need governments to lead and set the regulatory framework for identity, authentication and the privacy laws, not just specifically for healthcare but for everything. In healthcare, this has to happen in partnership with patients and providers, because otherwise you're going to create something that doesn't fit in with the broader experience of how a patient interacts with the government.

A healthcare journey may need someone to interact with many touchpoints beyond the healthcare system, within government and industry. For example, a pregnancy may require not only services from the healthcare system, but also a connection to the organisations that manage maternity leave and tax credits. Ensuring that a system that shares identity and authentication principles is interoperable across government silos, not just across healthcare, is imperative for a connected ecosystem of services.

What are your thoughts on going beyond that to thinking globally or regionally?

RDS: The world is getting smaller. A lot of the big companies, whether it's life sciences or your electronic medical record groups, are international. Having interoperability between systems and having a forum for governments or industry to share thinking and discuss common goals is very important.

How can digital health empower the patient?

RDS: I think it's a double-edged sword. At the moment, a lot of people just think about wearables when they talk about digital health, but research is coming out now that shows many of these tools don't actually help users.

We're still learning exactly how digital can help, but we know it's important to give patients access to information, to provide a sense of community, and to give them tools to help them adhere to treatment – all this can be improved or, in some cases achieved, through digital technology.

However, you have to consider that if a doctor hands you a box that's a medical device, you're likely to treat it quite differently from your mobile phone, which you chuck in your gym bag, drop, pour beer on etc.

For example, if I download an asthma app onto my phone and then I drop my phone and something goes a bit haywire causing the phone to gather incorrect data, whose fault is that?

We have to understand how we can work around these different cases. We also need to work out what we can do to ensure these amazing technologies work with medicines and novel treatment methods to create better outcomes for patients.



Is any new technology excelling in the healthcare space?

RDS: I'm personally really interested in mental health, because we don't really understand a lot of the factors that trigger and impact someone's mental health. There's some really great work being done with algorithms relating to voice recognition, which pick up when somebody may be shifting into an anxious or depressive state. The technology can then signal that the patient may need an intervention, be it through counselling or a change to their medicine.

If we think more broadly, using some of these digital tools to support better adherence is an enormous opportunity. For instance, my husband has a pacemaker and takes four or five drugs. The amount of times that he says, "do you remember if I took my pills this morning?" is very frustrating.

Making it easier to get repeat prescriptions and minimising that barrier to adherence will be really important. If life science companies could work with digital health start-ups, they could deliver something that really supports the patients' needs and could be personalised to their particular lifestyle.

We've talked about the triple aim of health to reduce cost, improve patient outcomes and improve population health. This has evolved to the quadruple aim - adding in the provision of better tools for the health workforce. Now, I think it's time we add a fifth goal, to create economic growth opportunities for industry and indeed nations too.

At Blue Latitude Health, we are experienced in digital service design for the healthcare and pharmaceutical industries. To find out how we can help solve your challenges, get in touch with simon.young@bluelatitude.com





The intelligent pill ending insulin injections

* This article was previously published on Bluelatitudehealth.com

By Dina Patel

Innovation in healthcare does not always come in a digital package. It is born in understanding the true cause of problems, observed or experienced, and using this insight to inform and inspire the creation of solutions that are fit for purpose. This understanding of unmet needs is driven by investigating of patients' problems from the outside in and seeing experiences from their perspective, as well as from the perspective of the other stakeholders they interact with.

A team at the [Massachusetts Institute of Technology \(MIT\)](#) has done just that. They have found a novel way to solve a major challenge for diabetes patients – delivering insulin without the need for painful and uncomfortable injections. Taking inspiration from the leopard tortoise, the MIT research project, sponsored by Novo Nordisk, is aiming to deliver insulin orally with a pill that releases its medicine in the stomach lining. Dina Patel speaks to Alex Abramson, the lead author of the paper and MIT Chemical Engineering graduate student and Ester Caffarel-Salvador, Postdoctoral Research Associate at MIT.

Why do we need to deliver insulin orally when we can use injections?

ALEX: This device enables the delivery of all biologic drugs, not just insulin. We expect it could be used for nucleic acid delivery, protein, peptide, and antibody delivery. It has the capacity to transform how we deliver all of these drugs. A lot of companies will kill projects that involve macro molecule drugs requiring injections because they only offer an incremental improvement over an existing small molecule drug. They know people won't want to take that injection over a pill that works almost as well, these macro molecule drugs which would have required an injection aren't suitable for the market. We expect a huge amount of the macro molecule drug projects currently being killed by pharmaceutical companies could really benefit from this new technology for oral delivery.

ESTER: We also anticipate that patients will not feel any pain from taking this pill. The gastrointestinal tract does not have pain receptors and, when tested in pigs, we didn't observe any evidence of discomfort. We've looked closely into this and the safety of the device.

“A huge amount of the projects currently being killed by pharmaceutical companies could really benefit from this”

What have been the core research findings?

AA: When developing this pill, we created three new innovations. The first is the self-righting system. I learned about a great mathematician in Hungary who had done a lot of research on the self-orienting nature of turtles and tortoises. We were inspired by the leopard tortoise – a tortoise found in eastern and southern Africa that can re-orient itself very easily based on its shape. It has a shell with a high, steep dome, allowing it to right itself when it rolls onto its back. Similarly, our pill has a shape close to the leopard tortoise shell and that makes it easy for it to re-orient itself if it lands in a direction that isn't facing the stomach tissue wall.

The second breakthrough was the sugar-based trigger, which ensures the pill doesn't fire in the oesophagus when it's ingested, instead it always fires in the stomach. The trigger senses the humidity in the gastrointestinal tract and that starts a timer. The sugar begins to dissolve and after about five minutes, it releases a compressed spring which pushes the drug into the tissue.

The last finding is the solid needle made almost completely out of insulin and other biological drugs. It allows us to deliver a clinically relevant dose. If we weren't using a needle made almost completely out of the drug, then we wouldn't be able to deliver enough of the insulin.

What was your role in the project?

AA: This has been my main focus for the past couple of years. It's my thesis project and I helped coordinate the efforts between MIT and Novo Nordisk. My role consisted of developing the idea to make a self-orienting device and working on the amount of force necessary to inject the needle. I was also involved in making the sugar-based hydration mechanism and a solid dose of the needle.

ECS: The research began in August 2015. The lab is a very collaborative environment. We have a multidisciplinary team composed of technical assistants, professors, postdoctoral associates and many undergraduate students that visit for a term, the summer or even the whole year.

Alex and I have different areas of expertise. Alex is a chemical engineer and I am a bio-technologist and biochemist by training – our skills complement each other. I was involved in the formulation aspect of the prototype. I focused on tissue characterisation, on researching formulations and on the stability of the drugs. I tested the loading capacity of the device and optimised the analytical methods to quantify insulin. For example, I confirmed the insulin was still active when pressed into the device and ensured the properties didn't change considering that we are submitting the insulin and other biologics to a high pressure during the fabrication process. Initially, this was a three-year collaboration project, but, now that we have this prototype, we have extended the collaboration.

Why does the pill need to be able to turn itself?

AA: When I started working on the project, and was considering how to combine needles and pills, the first thing I did was place small needles around the entire pill. When we dropped that on the tissue, I realised only a quarter of those needles were making contact. The other 75% of the needles were just going to dissolve and not deliver the drug – or even worse, the pill would rotate and allow slightly more needles to enter the tissue causing variability in the dose amount.

This brought up the idea of only putting the needle on one side of the pill. To do that, we needed a pill that oriented in the direction of the tissue wall. This way, we could ensure the needles on one side of the pill were always in contact with the tissue wall. The idea of self-orienting came up and we wondered, what are some things in nature and in our environment that self-orient?

The leopard tortoise specifically has evolved over thousands of years to be great at self-orienting on land. We took the leopard tortoise shape and density distribution as an initial guess. Then, we plugged that into a mathematical model that looked at self-orienting in the stomach.

How does the self-orienting needle work?

AA: The needle itself is inside a slightly larger capsule – it’s between the size of a pea and a blueberry. The bottom of the device is weighted and so the centre of mass is lowered, which makes one configuration of the device the only stable configuration. For example, if you think about a Weeble Wobble toy or one of those punching clowns, whenever you disturb it, it always comes back to its preferred configuration – which is upright. The self-orienting device utilises a similar concept. It also has another key characteristic, a flat bottom, which ensures once a person takes it and the device has oriented itself towards the tissue wall, if the person were to lean over from side to side or their stomach was to growl, it would stay in the same position.

ECS: The needle is only expelled once triggered by the sugar mechanism. It is protected until the device reaches the desired configuration against the tissue wall of the stomach.

How long does it take for the insulin to be fully released into the blood stream?

AA: This can vary depending on what excipient we add to the formulation. If it’s made of 100% insulin, then it dissolves over the course of several hours. If you add another excipient that enhances or slows dissolution, the drug uptake profile can change dramatically. We’ve shown that we can use this to deliver insulin over the course of an entire day.

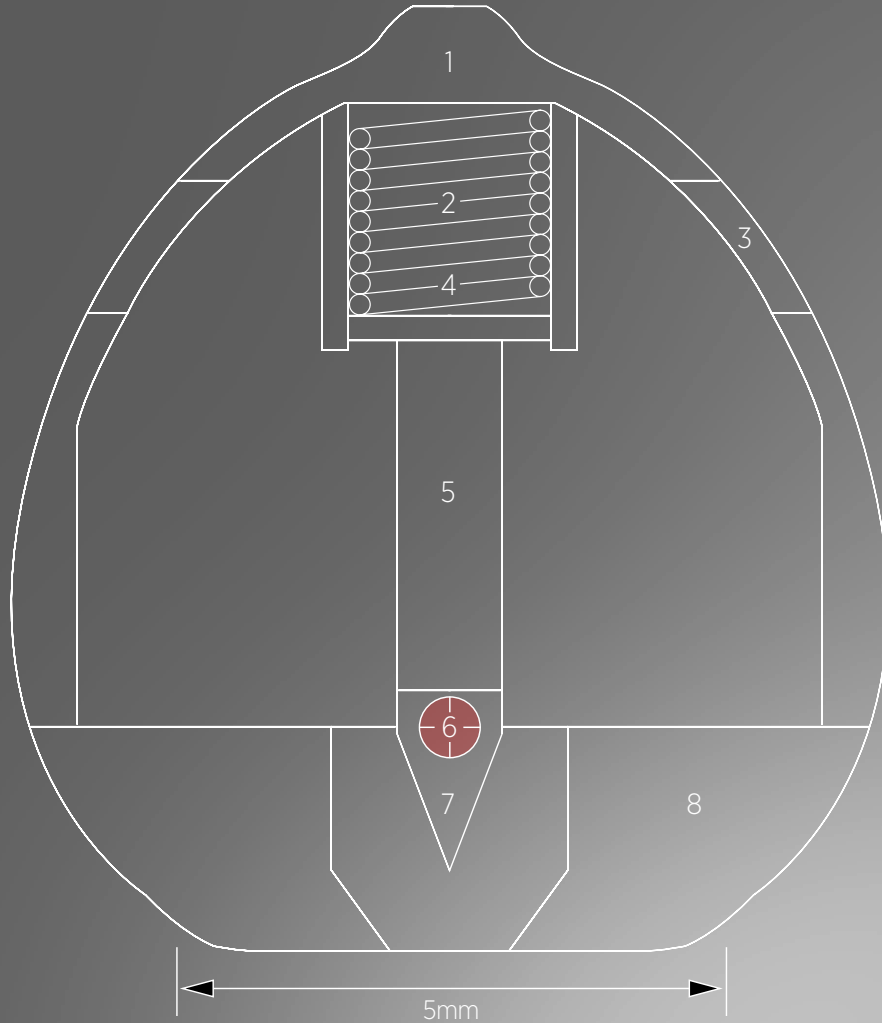
ECS: There are different types of insulin so there is a lot of room for optimisation.

What are you planning to do next?

AA: Right now, the research is being tested on large animal models. The one thing we want to look at is the chronic effects of the injection in the gastrointestinal tract. What happens if humans or animals were to take these every day for six months? We want to continue doing a few large animal tests and once we’ve gauged that, we then hope to go to clinical trials with humans in the next three years.

At Blue Latitude Health, we’re skilled in commercialising novel therapies, from initial strategy to creative execution. For more information, get in touch with simon.young@bluelatitude.com

Ingestible insulin delivery device



- 1 Low-density biodegradable polyester body
- 2 Sugar actuator (holds spring in compression until dissolved)
- 3 Vents in body
- 4 Stainless steel spring
- 5 Biodegradable millipost
- 6 Centre of mass
- 7 Insulin tip
- 8 High-density stainless steel base (creates necessary low centre of mass)

Enhancing the lifecycle of your insight

Pharmaceutical and healthcare companies invest a great deal of time and money in commissioning research to address their insight gaps. The process often results in suboptimal return on investment (ROI) due to faulty communication and inefficient documentation of insights. Amit Sheinholtz, Senior Associate User Experience Consultant and Elisa del Galdo, Head of Customer Experience discuss common pitfalls of the negative insight lifecycle and how to avoid them.

The right kind of insight can help pharmaceutical and healthcare companies to be truly customer-centred and data-driven. It can provide a holistic understanding of customers and different aspects of their lives that likely affect their interaction with the business. For example, met and unmet needs, how they think and feel, what they value most, and what drives their decision-making process.

That's why collecting the right data and extracting the right insight to inform your actions can show you how to best address real customer needs seamlessly.

TURNING DATA INTO INSIGHT

There is still some confusion around the difference between data and insight. At Blue Latitude Health, we define data as the raw and often unprocessed evidence, which normally takes the form of numbers and text.

Insights are extracted through the process of data analysis. We interpret the data with the context and objective of its use in mind to draw conclusions and form meaningful, actionable 'nuggets' - insights.

The insight you extract from your data shouldn't be 'static', or a single-use, one-time view of your customers, regardless of whether they are healthcare professionals, patients or caregivers. Your customers evolve; the landscape and context in which they operate changes, and so should your insight. In that regard, even the fact that your insights are changing (or not) is a valuable insight in itself.

FALLING INTO THE NEGATIVE INSIGHT LIFECYCLE

Generating insight is often expensive, which means it is essential to ensure the insights commissioned in one project can drive future strategies. However, in many cases, the ROI of the commissioned research is suboptimal. This is due to the negative insight lifecycle - a trap pharmaceutical and healthcare companies often fall into. This cycle results in insight being difficult to communicate, easily disregarded or stored somewhere on a server and forgotten.

“Your customers evolve; the landscape and context in which they operate changes and so should your insight... the fact that your insights are changing (or not) is a valuable insight in itself”

THE SIX STEPS OF LOST INSIGHT

- 1 Someone or something triggers a need for more data or insight.
- 2 A research project is designed to meet the needs of the current objective, timeline and budget, and then commissioned.
- 3 Research is executed and data are collected.
- 4 The raw data are analysed and reduced into lots of Post-its that get thrown away in the process of writing a report or documenting. The insight 'nuggets' on these Post-its become lost; and, instead of a lifecycle, the process becomes a linear dead-end.
- 5 Sometimes, the attained insights 'advance' from their Post-it form to a Word, Excel or PowerPoint report. The report is presented, then stored on a server and never revisited – another linear dead-end.
- 6 On some occasions, the insights are visualised using graphic representations, such as personas, customer journeys or storyboards. These visualisations are printed, presented and end up in the bin.

MOVING TOWARDS A POSITIVE INSIGHT LIFECYCLE

There are a few measures that can be taken to ensure your insight remains valuable, relevant, accessible and up-to-date – the positive insight lifecycle.

The most effective way is to use an insight repository, which ensures the insight is held in a living, interrogatable database. The same insight can be revisited whenever needed and re-analysed from different perspectives.

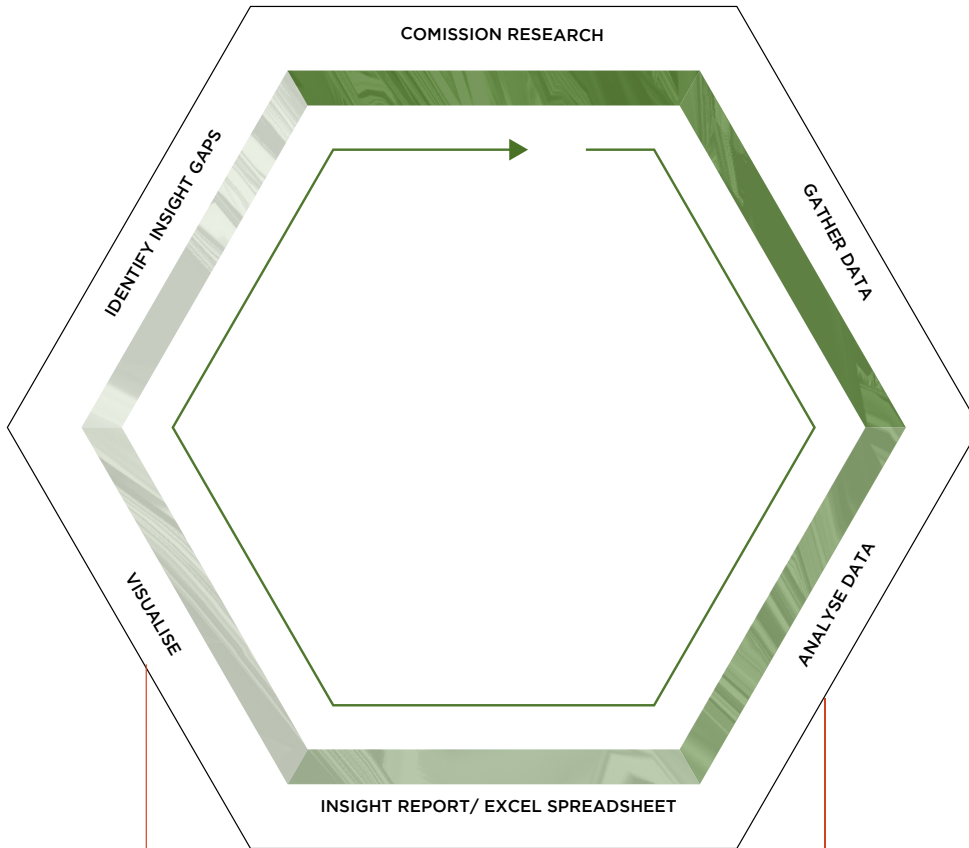
By using a tailored dashboard, the insight can be filtered and manipulated in order to address new business objectives that arise in the future. Conversely, if the existing insight is no longer relevant or insight does not exist, gaps can be identified to decide whether additional research needs to be commissioned. New insight can also be added to the database and can be examined in light of existing insight and compared to assess changes over time.

Because the insight in the database is more accessible and can be revisited whenever the need arises, we can prolong the shelf life of insights and increase their value so they aren't lost once they are delivered.

Another advantage of having all of the insight live in a dynamic database is the ability to restructure it in order to create different types of visualisations that can address different business objectives.

INSIGHT LIFECYCLE

POSITIVE



POSTER

SERVER/BIN

POST-IT

NEGATIVE

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TRANSFORMING INACCESSIBLE RESEARCH INTO LASTING ACTIONABLE INSIGHT

For a recent project, we were approached by a client who wanted to understand the different ways in which their various customers, ranging from pharmacists and general practitioners to specialists and policy makers, consume medical content.

During the initial discovery phase, we learned that the client had significant amounts of data and commissioned third-party research on their customers. However, the data was locked away in disparate documents. Owing to their inaccessible nature, the existing data was not being leveraged in making strategic and design decisions. It became apparent that outputs from costly research projects commissioned over the years resulted in poor ROI.

We extracted the insights that were locked away in these documents and reports and created a database of insights that were categorised and tagged with meta-data. This ensured that any information about the research as a whole, that would have an impact on the validity of the insights in future projects, was documented.

Our approach aimed to maximise the value of their existing data, instead of conducting additional customer research and adding unnecessary costs. We undertook a comprehensive review of the outputs from more than 50 pieces of research and supplemented it with our own intellectual property to create a repository of insights, cross-referenced to meta-data on each piece of research and insight type.

To address the business objectives of the project and help the client understand the differences between their customer groups, we leveraged insights from the repository to design customer personas and journeys. In this case, the value of the repository was two-fold – it was used to inform the initial deliverables and used again when the client asked us to extend the demographics of the sample.

By using the bespoke filtering system that we implemented into the repository, we were able to easily locate and pull out the additional insight that was needed to enhance the personas and journeys.

The client benefited from having a living document, which can be easily accessed and updated. In addition to using the repository to identify data gaps and inform the design of future research projects, saving the business time and money, the data in the repository can easily be accessed and updated, maximising the life and value of their existing insight.

To find out how we can help you ensure your insight remains valuable, contact elisa.delgado@bluelatitude.com





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WWW.BLUELATITUDE.COM

LDN: +44 020 3328 1840

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