

Mumo White Paper

January 2018

What's the main problem for digital health tools to solve? (It's the data supply chain, not consumer health itself)

Challenges of investment into digital health

The UK digital health marketplace is a difficult win for investment. Purchasing cycles of three to five years favour incumbent companies with large enterprise contracts that are difficult for NHS customers to get out of. Companies need to pay for trials and studies and write dozens, if not hundreds, of grant proposals with their NHS partners.

This takes a long time and drives toward big-ticket enterprise contracts that then lock in the incumbents and create a barrier to innovation. It's good for stickiness but not innovation, population-level scalability or adoption of fast-innovative solutions.

Companies like EMIS, Epic or Cerner gain market penetration, not by addressing user problems and an amazing user experience, but by a long, costly business development process. That process gets in the way of intelligent solutions that can come from companies wanting to solve user problems really well - solutions that can take a different approach to the health consumer marketplace than the current enterprise structure.

STILL THOUGH, 86% OF DIGITAL HEALTH BUSINESS MODELS ARE ENTERPRISE

UK healthcare has countless barriers to innovation. Lack of network effects (a nurse cannot try a solution and share it with her colleagues). The purchasing cycles and bureaucratic barriers preclude a dynamic and energetic source of digital solutions that can come from startups solving real problems.

Investors are saying that early stage investment in digital startups is not producing returns. They want to know how much traction a startup has in the existing marketplace, but user acquisition and customer conversion cannot happen in health the way it does in consumer or business spaces. Smart solutions can't gain access to investment on the scale of other sectors because user adoption and customer conversion rates are so low and take so long.

THE CURRENT MARKETPLACE IS RELATIVELY CLOSED AND CREATES A STARTUP WASTELAND

UK investors have to go in deep from the beginning. When they may otherwise put in £1m to get market validation and initial revenues, they are saying they have to follow on with £2-3m to get to growth phase in the existing marketplace. This stretches their portfolios with higher risk and lower returns so they are less willing to expand their early stage investment range. UK investment then dries up for the early innovative solutions. There are therefore fewer awesome solutions being brought forward to be adopted and grown.

Solutions in this space, meanwhile, tend to be bad (not universally, but generally in the UK). Digital companies do not have to measure their own success based on user and customer success. And the solutions available typically are ten years behind the user experience, effectiveness and elegance of solutions found in other markets. The drive to engage and activate users is not even there because the (limited) revenue comes from having already locked down a contract.

Moreover UK companies restrict distribution to the NHS funnel which means a consumer can hear about a solution on the BBC, take time to download it and then hit a wall because their particular clinic or CCG (clinical catchment group) hasn't approved adoption of the solution. They don't even get to know what problem the solution could be solving for them.

THE MONEY DOESN'T MOVE, SO INVESTMENT DOESN'T HAPPEN, SO THE EXISTING SOLUTIONS ARE WORSE. SO THE CUSTOMERS DON'T WANT TO PURCHASE (THE MONEY DOESN'T MOVE).

The fundamental problem for digital health tools we should solve is not making people manage their health better

RISK STRATIFICATION OF PATIENTS IS A LOGISTICAL ISSUE, NOT A HEALTH ONE

Most digital health solutions in diabetes gear toward forcing behaviour change. Customer questions surround validating clinical results. "Does your app reduce HbA1c levels?" This, of course, would be fantastic if one could build a tech tool to make someone healthier.

However this is not the real opportunity for digital solutions, which lies in scalability, efficiency and logistical solutions. These can enable people and families to self-manage better and clinicians to do their jobs more effectively - of making people healthier, or getting them treated before costs go out of control.

OUR USERS WANT ACCESS TO, AND THE ABILITY TO SHARE, THEIR HEALTH DATA

Mumoactive exists because Sheldon's two sons have type 1 diabetes and he needed a way to be able to manage their sugars better. So the boys' parents, teachers and family can now all enter and view their key diabetes information securely and in realtime (sugars, notes, prescriptions etc.). Teachers can focus on their jobs because they can provide realtime results, while the parents worry less because they know what's going with their children. Mumoactive is the UK top diabetes tracking app now.

However, Mumoactive users were saying they wanted something more than being able just to track their sugars or modify their behaviour. They wanted to be able to share their information and data with their clinician: sugar results, notes, secure NHS numbers, clinical contacts, etc. And their clinicians wanted access to that information in a simple, compliant platform.

What health consumers and clinicians want is freer access to patient data and information. Health consumers as well as family and support - regardless of the health condition - want to be able to host and share their information. Clinicians can radically improve their ability to help their patients by being better connected to their patients and relevant data, documents and information.

However risk stratifying patients is a logistical issue, not a health one. How someone manages their asthma doesn't help clinicians know which people to contact in what order.

The fundamental problem that digital can solve in health is connecting people's information with a secure, compliant ecosystem. Solutions available currently are in silos. A platform that can open up data and information flow among consumers and clinicians can transform the data and information supply chain. Or simply create a new, more effective one for health consumers and for clinical teams to better connect with the right patient at the right time.

THE FUNDAMENTAL PROBLEM THAT DIGITAL CAN ADDRESS IS UNLOCKING A HEALTH DATA SUPPLY CHAIN

Mumo wants to own the key link in that supply chain.

Our NHS clinical partners say patient data currently gets dumped into an electronic health record with little to no access to robust structured data that can be used in clinic. Patients are given a paper summary document of their data and sent away. There is a complete breakdown in the data

and information supply chain. Take an Uber to your GP surgery or community health team and you go from the 21st century straight into the 1950s.

Lost or absent blood results. Reliance on paper and post. Email at best. But with no central and easy way for the patient or their family support to manage and share the relevant information with their stroke rehab physio, their speech and language therapist, specialist, pharmacist or community health nurse. And this impacts people's health and healthcare costs.

Mumo can transform that. The Mumo personal health profile can give health consumers control over their information and how they share it. That is the potential for 65m users in the UK to start to move health information rather than the 400 or so hospitals and NHS health orgs currently struggling to access electronic health records across services. This, of course, would create a new marketplace.

MUMO TECHNOLOGY CAN BECOME THE LYNCHPIN OF THE DATA SUPPLY CHAIN. THAT CREATES A NEW MARKETPLACE

Solve the problem of the data and information supply chain by putting it into the hands of the health consumer and you underpin a whole new ecosystem.

Marketplace

The current marketplace is broken: 3-5 year purchasing cycles; restricted access to data; no network effects within healthcare; a broken data supply chain.

ONE OF THE PROBLEMS WITH THE MARKETPLACE IS THE FOCUS IS SOLELY ON THE SUPPLY SIDE

The NHS pours countless resources into accelerating digital solutions into use but they only focus on the clinic side. They have conferences on patient-centred care, modest funding for restricted "digital innovation". Very few companies going through NHS-funded accelerators do 6-figure deals. For the companies that do gain some traction the results can be solutions looking for problems. And then they can't scale, but have to start the 3-year purchasing cycles all over again for their next customer.

BRING IN THE DEMAND SIDE - 65M PEOPLE IN THE UK - AND YOU CAN BUILD SOLUTIONS THAT ARE DRIVEN BY PROBLEMS

With solutions that are driven by consumer demand, you expand the marketplace from 400-odd NHS customers to 65m customers. And you create an environment where digital companies can gauge their success based on their user and customer success.

You create a sharing environment where NHS orgs and others - more efficient organisations like employers or insurance companies - can purchase access to the sharing ecosystem so they can start to improve their ability to service patients or customers.

YOU CREATE A NEW MARKETPLACE

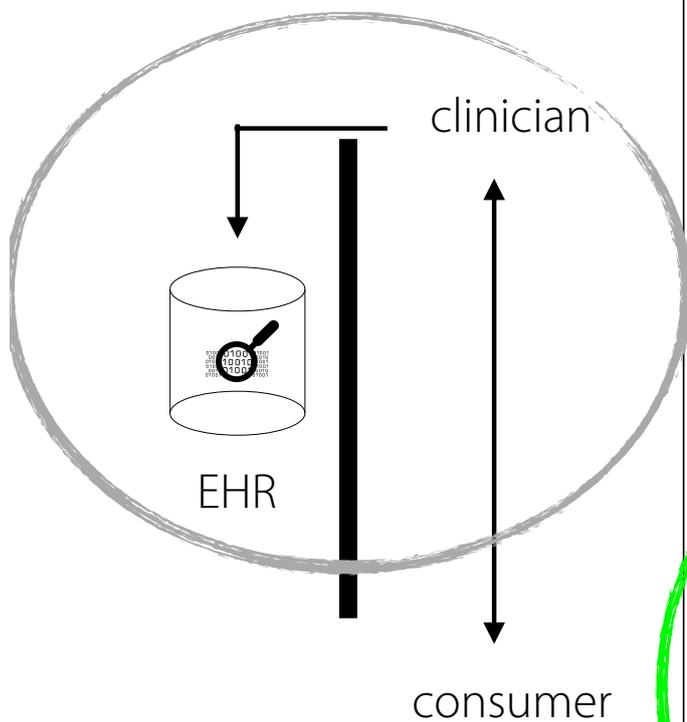
Give people control over their health information and the ability to share it in a secure and NHS-compliant platform and you create a new marketplace: a sharing environment where you enable easier access to information, employee health programmes, insurance transactions.

Investment into this kind of solution would start to mirror the unicorn potential of consumer or business products. The information moves. The problems emerge. And a consumer-centred health data sharing environment becomes an opportunity not constrained by the barriers in the existing health marketplace. Mumo could underpin that new digital health ecosystem.

Marketplace of 427 UK customers (CCGs and Trusts)

Problem:

Data-supply chain broken. Clinician enters data into the EHR and it stays there



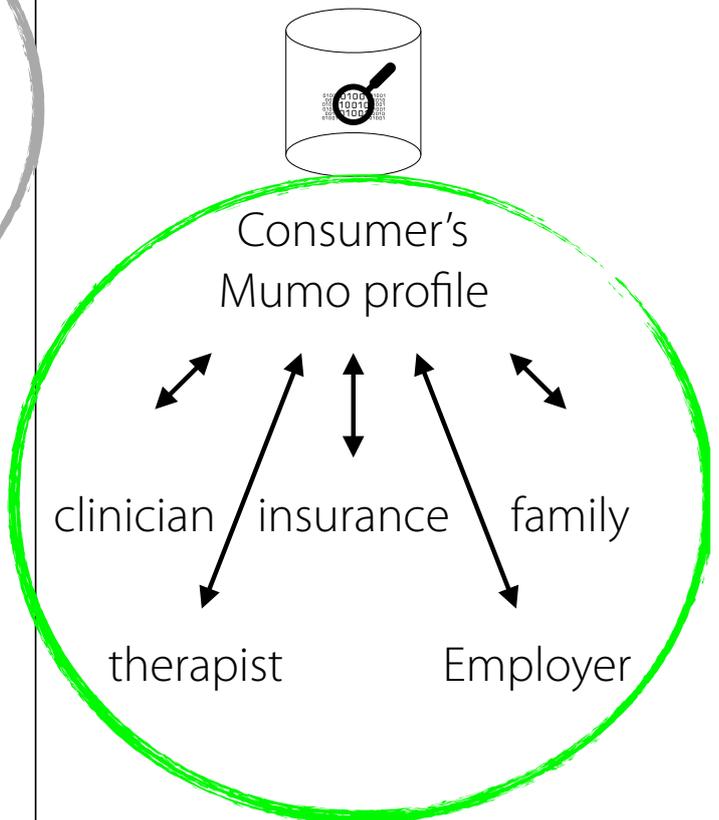
Health consumers and clinicians can't access the data they need for better health.

Monetise a broken data supply chain by having to integrate with every third party and bureaucratic organisation

Marketplace of 65m UK health consumers

Solution:

Consumer health-data sharing environment creates a new data-supply chain



Monetise consumer health sharing environment