THE DIGITAL TRANSFORMATION OF HEALTHCARE: PART I, PHARMACY



THE "PHARMACY OF THE FUTURE" WILL BE SHAPED BY DEMOGRAPHIC, ECONOMIC AND REGULATORY CHANGE; THE TRANSFORMATION OF PRIMARY HEALTHCARE; NEW DIGITAL INFORMATION TECHNOLOGIES AND THE RISE OF MULTICHANNEL RETAILING.

This is the first instalment in a series of healthcare insights that will be released at intervals by Alvarez & Marsal (A&M).

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INTRODUCTION

The digital revolution has spawned new business models that deliver better, cheaper, more relevant services to consumers. As individuals, we are accustomed to interacting with retail and other organisations in new ways. We shop online, bank online, organise our lives online and consume all manner of content online. Our physical interactions with businesses and public sector organisations are increasingly part of a multi-channel experience with, for example, retailers now having to rethink what their stores are for, where they should be and what they put in them. The UK is in the vanguard of this retail transformation, as it is in other sectors that are being transformed such as insurance and government.

We are about to see similar transformational change in primary healthcare driven by pressure on government budgets, demographic shifts (including ageing populations) and increasingly health-conscious, digitally savvy and value-driven consumers. This has the potential to reduce pressure on hospital accident and emergency (A&E) departments and general practitioner (GP) practices, improve patient outcomes and substantially reduce the overall cost of care. The community pharmacy will play a key role in this transformed primary healthcare model but it will look somewhat different from the pharmacy we know today.

The pharmacy of tomorrow will be shaped by the convergence of the dramatic changes taking place in multi-channel retail and primary healthcare, catalysed and enabled by six key trends, namely:

- Pharmacy industry consolidation and performance improvement, encouraged by reducing government subsidies and the need to strengthen pharmacy economics
- The adoption of true multi-channel retail practices and digital consumer engagement by pharmacies, including the provision of a wider range of health-related services in store and online
- Expanding the role of the pharmacist as a focal point in the local community for primary care, with access to medical records and enhanced prescribing powers
- Progressive improvement in medical records management, including the adoption of GS1 data standards and permissionbased access across the primary care (and wider) health system
- New approaches to monitoring patient health and medication compliance that could enable further transfers of responsibility to local primary care
- 6. New analytical techniques that transform the way pharmacies will engage with their local communities and the way physical pharmacy footprints will be reshaped

This article describes the profound changes we see taking place in pharmacy retail. We anticipate equally profound changes across the wider healthcare system, including significant impacts on suppliers to the system such as manufacturers of medicines. These will be covered in subsequent instalments.

THE SIX KEY FACTORS THAT WILL SHAPE "THE PHARMACY OF THE FUTURE"

1. PHARMACY INDUSTRY CONSOLIDATION AND PERFORMANCE IMPROVEMENT, ENCOURAGED BY REDUCING SUBSIDIES AND THE NEED AND OPPORTUNITY TO STRENGTHEN PHARMACY ECONOMICS

The structure of the pharmacy sector differs by country, being significantly influenced national regulatory environments. Across Europe, Asia and Africa, regulations restricting ownership and rules around establishing new pharmacies are common. In some countries, including France, Germany, Italy and Spain, chains of pharmacies are not permitted. This has resulted in a fragmented retail environment dominated by independently run pharmacies, though this does not prevent them from being members of more loosely associated buying groups. It is estimated that in Europe, 80 percent of pharmacies are independent, with only 16 percent belonging to wholly-owned chains. Of these, major chains with at least 50 branches account for 46 percent, and approximately half of the wholly owned chains in Europe are found in the UK. In emerging markets, this fragmentation is additionally driven by the prevalence of traditional trade retail models.

Most countries also regulate pricing and the availability of over the counter (OTC) medicines, typically restricting sales to pharmacies or (as in Canada, UK, Singapore, South Africa and Australia) allowing certain "general sale" OTC medicines to be available elsewhere. Pharmacies may also receive a portion of their income in the form of fixed fees for dispensing (as is seen in countries such as the UK, Belgium, Italy and the Netherlands).

However, pressure on healthcare budgets has led to government reducing this support for pharmacies, creating an important shift in pharmacy economics. This shift has particularly targeted reimbursement models, where subsidies for prescription

medicines are being reduced or limited to the cheapest generic version of a drug. In countries such as South Korea, economic evaluations have been introduced for the first time to prescription reimbursement criteria.

There is evidence of a trend towards liberalisation of pharmacy markets, moving towards a US style model that is without restrictions on ownership or corporate structures, establishment rules and limitations on sales of OTC medicines. For example, in Sweden, establishment rules were recently abolished, resulting in state-owned pharmacies no longer dominating the market.

In the US, this more liberal approach has led to pharmacies becoming increasingly consolidated, with several large mergers and acquisitions in recent years. Provisions in the Affordable Care Act and pressure on prescription margins have also prompted US pharmacies to diversify more into specialty medications and non-dispensing revenue streams, such as health clinics, opticians and dental care. We expect to see similar trends emerging in other countries.

While some pharmacies do an excellent job of ranging and merchandising beyond the core business of dispensing and selling OTC medicines, many others have significant opportunities to improve their customer offer and business performance through better ranging and presentation. In particular, many pharmacies have opportunities to be more proactive in managing their non-prescribing space according to mainstream retail performance metrics such as sales density and gross margin return on space.

Reductions in government support will likely encourage these changes, while also resulting in the rationalisation of the number of pharmacies as some fail to rise to the challenge or lose out to nearby competitors that are more successful in becoming real primary healthcare destinations. We see a particular opportunity for many pharmacies to adopt more explicit patient pathway thinking whereby products that complement prescription medicines and treatments, such as those tackling unwanted side effects, are recommended at the time a prescription is dispensed. We also see this as an opportunity for the manufacturers of complementary products, such as OTC medicines and nutritional supplements, to bring proactive patient pathway and "category management" thinking to pharmacies.

2. THE ADOPTION OF TRUE MULTI-CHANNEL RETAIL PRACTICES AND DIGITAL CONSUMER ENGAGEMENT BY PHARMACIES, INCLUDING THE PROVISION OF A WIDER RANGE OF HEALTH-RELATED SERVICES IN STORE AND ONLINE

Individuals can increasingly choose to consume healthcare services in different ways, with delivery models reflecting what is happening more broadly in retail, i.e. becoming truly multichannel. A number of countries now permit online purchases of OTC and prescription medicines, leading to existing pharmacies developing multi-channel offerings, as well as to the entry of "pure play" online pharmacies. In Europe, large online and mail order pharmacies have been established in the UK, Germany, the Netherlands, Poland and Switzerland. Multi-channel models also open up opportunities for pharmacies to expand their share of wallet in other product categories and offer a wider range of health-related services.

"Click & collect" is becoming commonplace in retail and has a strong place in the future pharmacy model. Patients want to know that the medicine (prescription or OTC) or medical device they are looking for is in stock before making a trip to the pharmacy. In areas where the patient has a choice of pharmacy, this could mean the difference between the patient going to the smaller local pharmacy over a larger supermarket-based pharmacy due to the certainty of availability. As a result of their location in the community, many pharmacies have the opportunity to play a role as a click & collect location for a number of retailers, which some chains have already started to take advantage of to drive footfall into their stores. The counter in the pharmacy already provides some of the infrastructure required to support click & collect and hence the cost need not be significant for each outlet as long as volumes and types of merchandise are manageable.

At the heart of most effective multi-channel retail models lies a single, integrated view of the customer reflected in a wide range of data about, for example, their socio-demographic profile, household details, transaction history, etc. Modern advanced analytics can exploit this data to more effectively engage with

customers, prompting replenishment purchases, making relevant offers and inviting them to the store for check-ups and treatments. We believe customers and patients will generally welcome this type of closer relationship with their neighbourhood pharmacy and that this will be an important foundation for the successful pharmacy of the future.

Digital technologies are already beginning to revolutionise the in-store pharmacy environment, including the ways in which prescriptions are fulfilled.

Electronic Prescriptions and Robotic Dispensing

Electronic prescriptions have already been introduced in the UK, helping to ensure timely and accurate prescription fulfilment. Warehouse automation already plays a clear role in efficient central fulfilment. Pharmacy robots could be the next step in improving the speed, efficiency and accuracy of dispensing and optimising the use of space in the pharmacy.

The Growing Role of In-Store Customer Technology

More and more pharmacies are implementing in-store touchscreens to allow customers to search for information about the medicines they are being prescribed and to obtain other health advice. With the ever-growing adoption of intelligent connected mobile devices, it is inevitable that market-leading pharmacies will choose to give access to this information via their customers' own devices. This could be further enabled through exploitation of technologies such as QR codes and beacons. These technologies allow customers to be directed to specific information on their own device. For example, a QR code on a poster about diabetes could direct a patient to information on the condition and related products in stock in the pharmacy.

Digital screening technologies are also increasingly being used as part of new patient health checks in the pharmacy and we expect this to grow rapidly as the underlying technologies advance. Examples include screening for blood disorders, cardio-vascular problems, early-stage diabetes, glaucoma, common skin cancers and perhaps even the warning signs of mental deterioration.



3. EXPANDING ROLE OF THE PHARMACIST AS A FOCAL POINT IN THE LOCAL COMMUNITY FOR PRIMARY CARE, WITH ACCESS TO MEDICAL RECORDS AND ENHANCED PRESCRIBING POWERS

In many countries, pharmacists represent a significant underutilised resource in primary healthcare provision and we expect policymakers to address the regulatory changes needed to expand their role in primary healthcare for communities.

In the UK, for example, a pilot scheme is underway that involves giving 100 pharmacies access to patients' "summary care records" which contain information such as allergies and current medications.

The UK Royal Pharmaceutical Society estimates that treating common ailments such as coughs and colds in pharmacies could save the National Health Service (NHS) over £1 billion a year.

With the proposed changes in regulation, UK patients with minor ailments could opt to visit a pharmacist instead of their GP surgery. Pharmacists would be allowed to provide a broad range of services such as vaccinations, health checks, smoking cessation programmes, minor ailments management, medicines assessment and compliance support, care services, substance / alcohol abuse services, sexual health screenings, weight management services, gluten-free food supply and supplementary / independent prescriptions.

This would also mean that UK visits to accident and emergency departments could reduce by as many as 650,000 and GP consultations by 18 million. Only one-third of UK pharmacies currently have minor ailment centres but we expect this to change significantly over the next three to five years, consistent with changing regulation and the expansion of the role of the pharmacy. We see a similar opportunities across the rest of Europe, and more broadly across both developing and developed markets around the world.

4. PROGRESSIVE IMPROVEMENT IN MEDICAL RECORDS MANAGEMENT, INCLUDING THE ADOPTION OF GS1 DATA STANDARDS AND PERMISSION-BASED ACCESS ACROSS THE PRIMARY CARE (AND WIDER) HEALTH SYSTEM

We are facing a revolution in healthcare provision, with the use of data being the catalyst and enabler of this transformation. The sharing of information between healthcare professionals is largely driven by the ambition to provide the best and safest healthcare possible. Improved data capture and analysis also has the potential to reduce the costs of care, which also motivates healthcare governors, leaders and managers.

Creating and, more importantly, using data requires standards, rigour and ease of data capture at every point in patient pathways, combined with the right tools to interpret and make it available for use in planning and delivering patient care, post-event analytics and proactive risk management.

In the UK, as in a growing number of other countries, NHS policy is to adopt GS1 standards in areas such as patient identification, treatment details, drug administration, equipment use etc., which has the potential to provide a critical foundation in the endeavour to improve and personalise care, strengthen regulatory compliance, capture learnings, avoid repeated mistakes and reduce waste. It is also clear that these new data disciplines need to go beyond the NHS trusts to include other participants in the broader health ecosystem such as GP practices, pharmacies, pharmaceuticals manufacturers, medical equipment manufacturers, distributors and the private healthcare sector.

An increasing number of countries are allowing, or considering to allow, pharmacies to access patient medical records. In France, for example, the "Dossier Pharmaceutique" allows pharmacists to view four months of a patient's medication history and 21 years of vaccination history. Enabling the pharmacist in this way, in conjunction with enhanced prescribing powers, has the potential to reduce prescribing errors and improve patient outcomes, as well as to reduce costs since the cost per intervention by a pharmacist is estimated to be significantly lower than that of a GP or nurse.



5. NEW APPROACHES TO MONITORING PATIENT HEALTH AND MEDICATION COMPLIANCE THAT MAKE IT POSSIBLE TO TRANSFER FURTHER RESPONSIBILITY TO LOCAL PRIMARY CARE

The digital revolution is now starting to transform the way individuals are monitoring and managing their own health. Smartphones are already allowing and encouraging individuals to monitor their exercise patterns and body responses. Other wearable devices will take this further and many individuals will make this data available to healthcare professionals, thereby providing a much more complete understanding of their lifestyle and health than has ever been available before. Not only do these technologies have the ability to provide much more complete and up-to-date diagnostic information, but they will also allow remote monitoring of compliance with treatment regimes. They can also provide an emergency warning system when things go wrong, bringing huge beneficial implications for care for the elderly and for others at risk.

Beyond individual care, the analysis of this new data, using the latest generation of intelligent data analytics tools, will have a crucial role to play in informing care strategies, improving patient outcomes and reducing all manner of causes of misdiagnosis, misprescribing and waste. It will bring a better understanding of the lifestyle and other factors that influence patient outcomes, drawing on structured data and many different sources of unstructured data, both directly attached to the patient's medical records and beyond, such as those describing the environmental factors influencing the individual.

Social Media and Apps

Social media and app-based solutions will allow pharmacists to share medication and health news with customers, including alerting them when prescriptions are ready or when regular blood tests or other check-ups are due. Many patients already use social media to share health tips and advice with each other or as part of support groups. We expect leading pharmacists to take an increasingly active role in such groups to ensure the correct advice is given and to promote the pharmacy. Reviews could have a place in helping customers choose between OTC medicines or medical supplies. Apps are also being used in conjunction with

wearable technology to monitor patients' health, assess health risks and aid medical research. The data the app collects can be monitored, with an alert raised to the pharmacist if there are any unexpected results in tracking someone's condition.

DIY Healthcare

Numerous new products are under development that will enable patients to monitor their vital signs and conduct simple tests (e.g. urine samples) themselves. These devices will also be able to share information with healthcare professionals, for example using a patient's smartphone.

Adherence Monitoring

Monitoring of patients' prescription compliance is a key area where digital technology can improve patient outcomes and reduce waste. Products range from "smart packaging," where blister packs containing microchips can monitor when a dose is popped out, to "smart pills" that are ingested by the patient and transmit data on doses taken to a patch on the patient's skin.

Home Technology and Remote Monitoring

An increasing number of products, technologies and services are available to assist long-term healthcare and monitoring for the elderly and other patients at risk while at home, including the tracking of blood pressure, mobility, heart rate and many other key health indicators. Examples of recent innovations include floor pads in elderly patients' homes to monitor physical movement and locations and report any divergence from expected daily patterns, and plugs that detect whether a person has used their appliances as per their normal routine, sending an alert to a relative or carer if their behaviour is unusual.

Clearly, the data privacy and security requirements around these new approaches to monitoring and managing consumer health are significant and some individuals will be reticent to share their personal information or allow it to be accessed. The relevant regulatory regimes are in their infancy, with much work to be done on exactly what information will be available to whom, such as the pharmacist, and in what circumstances. On balance though (and pilot adoption of these concepts in locations such as Switzerland and the UK would tend to support), we believe these new approaches will be widely accepted as a key foundation for the provision of better, more affordable healthcare in the future.

6. NEW ANALYTICAL TECHNIQUES THAT TRANSFORM THE WAY PHARMACIES WILL ENGAGE WITH THEIR LOCAL COMMUNITIES AND THE WAY PHYSICAL PHARMACY FOOTPRINTS WILL BE RESHAPED

Profound changes in shopping behaviours are taking place driven by the widespread adoption of digital technologies and by demographic and lifestyle changes. These are already substantially impacting demand patterns across the retail landscape. For example, retail frontages are locating close to concentrations of employment and major tourist attractions, while transportation hubs are increasing their share of retail expenditure. As a generalisation, the top retail destinations, which benefit from these multiple sources of demand, together with the locally convenient centres serving residential, employment and commuter-based demand, will continue to flourish. However, the majority of middleranking retail venues, especially second-tier shopping malls, will continue to suffer declines in footfall and turnover

Pharmacy provision will need radical transformation to take account of these polarising trends if performance is to be optimised. There is little evidence that the supply of store-based pharmacy services has begun to address this challenge in a significant way.

Store Location and Format Choice

Increasing availability of data will inform choices of pharmacy locations in the future, as well as enable the products and services that they provide to be tailored to the catchment area within which they operate. As already demonstrated in mainstream retail, the geo-demographic profiling of store catchment areas enables the optimisation of location, format, ranging and services choice based on consumer and regional characteristics.

For example, there is now far greater confidence in forecasting birth rates at a local level and in turn the age profile evolution of individual districts and the likely mix of customers using local shopping and leisure facilities. This is critical to informing investment decisions that need to anticipate likely changes to consumer needs in the medium and longer term. It is essential to recognise that returns on capital investment will be overwhelmingly influenced by the pharmacy revenues achieved and their growth rates.

Broader Commercial Opportunities

It is important to also address the broader commercial opportunities that present themselves alongside the vital public service provided by pharmacies, as exploiting these opportunities will add considerably to the overall viability of pharmacies and greatly improve investment returns. For example, it might make sense for health and pharmacy centres which focus on fitness services to establish activity related facilities such as secure cycle parking. For others, the emphasis might be on well-being for the elderly with mobility and other relevant products and services offered.

The range of formats will be easily distinguished and their mix in a given region will be better aligned with the overall demand profile, with individual formats locally placed to reflect structural peaks in particular needs and potential demand that can be met in commercially attractive ways. Health education should also be tailored to local priorities and needs rather than being deployed universally in a "one size fits all" manner.

The Importance of Effective Retail Execution

The volatility of demand during the trading day and trading week will increasingly challenge pharmacy operators to develop operational solutions to ensure that the highest standards of service and professionalism can be maintained at the points of greatest stress. Disciplined category selection and ranging will be required to maximise sales densities on expensive and limited retail space and that the pharmacy is equipped to meet the needs of customer and patients when they visit the store. This will deliver healthy commercial and financial prospects for the pharmacy, in spite of the likely need in many cases to locate in busy locations with the highest rental density retail property.

The ranges for each individual store need to be carefully tailored based on the demographics of the local population. For example, ranges more applicable to older or younger people would expand or contract based on available space and the age profile of the local demographic. Advanced analytics allow the depth of stock holding for each line to be optimised in order to minimise stock holding, while maximising availability. Freed up space can then be made available to promote and sell larger items for home delivery, particularly those where expert advice from the pharmacist would support the sale, e.g. wheelchairs and other mobility aids.

Improved availability of data and sophisticated analytics using patient, digital engagement and purchase information will also be increasingly used to improve the customer journey both online and in the pharmacy. The customer will also benefit from a more integrated pharmacy service concept, for example, by better aligning the ranging and availability of OTC medicines for managing unwanted side effects with the anticipated demand for prescription medicines. We expect pharmacists to have better access to patients' medical information to allow more informed recommendations to be made, supported by advanced diagnostic analytics. Such personalisation should make possible better tailoring of services to the needs of the patient, while operating strictly within any data protection and other regulatory constraints.

Approaches such as this, informed by advanced analytics, also present significant opportunities for manufacturers of complementary OTC medicines and nutritional products to engage with pharmacies through a patient pathway lens. Building on established retail category management thinking, we expect such businesses to play an increasingly important role in the patient care offered by the "pharmacy of the future."

THE OPPORTUNITY TO TRANSFORM PRIMARY HEALTHCARE

Whilst the transformation that primary healthcare is undergoing creates some economic challenges for the pharmacy sector with likely reductions in prescription income in many markets, there is a very substantial opportunity for pharmacies to expand their role in the provision of primary healthcare. Drawing on the experiences of digitally-enabled business models such as those now seen in retail, and responding to pressure on healthcare budgets, pharmacies now have a much greater opportunity to become a real focal point for community healthcare. The adoption of the new enabling technologies described here and the effective use of data analytics will be key to this enhanced role, allowing pharmacies to offer a wider and more customised range of health-related products and services, both in store and online.



HOW READY ARE YOU TO PLAY?

1	Do you know your customers and their households individually so that you can target them with relevant information and offers?
2	Do you have consultation room facilities and do you offer an up-to-date range of diagnostic services and treatments in the pharmacy?
3	Are you equipped to handle electronic prescriptions from local GP practices?
4	Do you offer electronic information services that allow your customers to find out more about the conditions they are being treated for and the medications prescribed?
5	Are you linked with an on-line or telephone based medical consultation service with the ability to fulfil on-line prescriptions in the pharmacy?
6	Are you using electronic patient medical record information, for example to validate prescription details and risk of side-effects?
7	Do you allow your customers to check product availability on-line and order in advance for collection in the pharmacy?
8	Do you provide a direct delivery service whereby products can be ordered on-line or by phone and delivered direct to the customer's home or office address?
9	Do you integrate the ranging and merchandising of non-prescription medicines and other products to complement the mix of medicines prescribed?
10	For community pharmacies, does your range of non-prescription medicines and other products reflect the demographics of your local catchment area?
11	For pharmacies in major retail destinations and transportation hubs, does your range of non-prescription medicines and other products reflect the typical needs of customers passing through the location?
12	Do you offer other services such as 'click and collect' on behalf of other retailers that drive traffic into the pharmacy?

HOW A&M CAN HELP

A&M helps clients play a full and proactive role in the realisation of the multiple opportunities these changes present through the industry, technology and business model innovation skills we bring. As a result, individuals will benefit from better and more accessible healthcare. The pressure on primary healthcare systems will be relieved, thereby creating more sustainable economic healthcare models. Pharmacy operators will realise new opportunities to create value by playing a much more material role in healthcare provision tailored to the needs of local communities.

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