Delivering the Five Year Forward View through Business Intelligence
Introduction

The market for analytics has matured significantly in the past five years and, although the health sector in the UK has many years of experience in this area, it would be fair to say it has not been at 'the cutting edge'. While this means the NHS is somewhat behind in its use and understanding of the benefits of the latest approaches to business intelligence, it does also mean it can now follow and adopt appropriate models and approaches from industries which have invested heavily in this area.
Analytics

It refers to an organisation’s ability to collect data, share data, and analyse data. This is often presented in the form of reports about the past and present performance of the business.

We see

Descriptive

Descriptive analytics is analytics at its most basic – essentially what we see from data. This function is most useful for managing administration, existing operations and performance reporting.

Most popular with:
Reporting function
Manages:
Admin & paperwork

We predict

Predictive

Predictive analytics moves this basis forward – from what we see, to what we predict from data. It helps organisations plan for the future and design their processes better to meet their needs.

Most popular with:
Planning function
Manages:
Process design

We do

Prescriptive

Prescriptive analytics is, essentially, what we do with data, helping to organise the physical operation of an organisation. In healthcare organisations, for example, it influences treatment delivery, including adoption of new models of care.

Most popular with:
Operations function
Manages:
Treatment delivery

For more information contact health@capita.co.uk
Business intelligence

Business intelligence (BI) provides both historical and current views of actual data from the business. This insight can then be applied to data and by varying decisions and outputs it is possible to model what different futures might look like. It helps to determine the right organisational and operational changes to make today.

What is business intelligence?

At its most complex and effective, BI incorporates external data with the data owned by the organisation to enable it to make more realistic assumptions about the future around which it bases decisions and predictions.

The journey to active analytics, business intelligence and better decision-making

Organisations typically move along a journey towards a BI disposition when they have data from inside and outside their organisation that they can trust and use to make meaningful decisions about the current and future running of their organisation. This frequently starts with a recognition that the organisation’s current understanding of what is happening within it is not good enough to allow it to continue to exist economically in the way it is currently run.

This can often be prompted by external pressures. In the current NHS, this can be seen with a combination of the NHS Five Year Forward View, the Dalton Report and the government’s austerity strategy that requires the NHS to make savings – and therefore new ways of doing things. Another view of this, identified by the Carter Report, is the concept of ‘meaningful use’, which recognises that the NHS has been on an analytics and technology journey, but does not yet achieve comprehensive meaningful benefits from these assets.

As healthcare organisations move along the analytics maturity scale, they are more able to create and deliver the service innovations.
The NHS need

Understanding why analytics appears to have become one of the fastest growing segments of healthcare is about understanding the impact of delivering safe, effective, and accurate care from the first point of contact.

When we triage a patient accurately, we start a positive cycle that impacts all aspects of the care system. The outcome for the patient improves; unnecessary and duplicative activity is avoided; the cost of care is reduced significantly.

Analytics is even more effective when it goes beyond medical triage. Reporting triage, capacity triage, and pathway triage are all using advanced analytical techniques and technology to reshape the healthcare landscape.

Prescriptive analytics and predictive analysis

Before an organisation such as the NHS can make true data driven decisions (prescriptive analytics), it needs to understand trends and baselines (predictive analytics).

This becomes an interesting challenge in the UK, as our healthcare sector has yet to join the digital age in the way that, for example, many consumer industries have embraced it.

To help NHS organisations transform to deliver the proposed new models of care, they first need to get to the heart of their data. To explore what they know about themselves, and indeed their neighbouring organisations. To ensure it is captured accurately and stored by the right sort of tools that allow data to be interrogated and searched so questions the business has about today can be answered – allowing them to construct a tomorrow that is fit for the purposes of the local population.

Building specialist systems for healthcare is not a one-person task; it requires teams with diverse experience. Getting the most out of analytics requires a dynamic and broad-based approach, addressing more than just technology, because it needs to connect software outputs directly to a myriad of front line user needs. Analytics cannot be just about where money has been spent, and must not be just backward looking; it’s about actively changing the path of an organisation or organisations by applying tools and software to empower them to deliver the most cost effective high quality care – consistently.

Given the backdrop of a challenged UK health economy and the need to deliver £22.5bn savings by 2020, healthcare organisations within the NHS will have little choice but to adopt new intelligence and analytics solutions that enable organisations to deliver high quality, safe care for their patients and public.
The Capita idea

The NHS is facing unprecedented budgetary constraints and a demanding savings drive. We predict that with clear, effective implementation of analytics across the whole range of its functions, the NHS could achieve billions of savings over coming decades.

It’s important that the very basics of descriptive analytics are met first, in order to meet current NHS needs – it’s simple but important for UK healthcare organisations to structure and standardise its data to better manage administrative and reporting functions.

But this fundamental level is not where we see the future of analytics in the NHS, and it does not go far enough to meet the needs of healthcare organisations of the future or achieve the level of savings and efficiencies required.

Analytics must be positioned for the future needs of the NHS. Once data quality within NHS organisations improves, there will be a rapid shift towards predictive and prescriptive analytics which has the potential to transform all areas of NHS services – from more effective use of the NHS’s unwieldy estate, to patient waiting times in A&E departments and the management of community healthcare visits.

NHS organisations are already looking outside their own sector for inspiration on the use of data and analytics. Examples range from looking at how online grocery shopping models could be applied to managing community and social care, to looking at how analysis of social media could help predict public health threats and provide an early warning system for trends such as flu outbreaks.

The Capita approach across all sectors is based on partnership working. A number of NHS organisations already have strategic partnerships with Capita—as do many local authorities.

Our ambition is to link everything we do to the core needs of our users. Whether it’s software features or analytics techniques, all of our reports, outputs, and software features are designed with our partners core needs in mind.

The scale and pace of change facing health economies is a driving factor in making the partnership approach work effectively. Delivering sustainable services is predicated on great insight and BI across a range of stakeholders, and we use our analytics business to link the data flows between these stakeholders.

The Five Year Forward View has made it clear that NHS bodies will have to reinvent themselves as broader-based organisations, but the real challenge, as yet undefined, is how this will be achieved. In any event, it is clear that the effective application of analytical tools to visualise this, and change management to deliver it, will be key.

The new models will also create new governance and financial challenges. Firstly, how to integrate and manage these complex new organisations, and secondly how to redirect and redistribute finances to realise the new models and the savings they are anticipated to generate.

All of this will demand organisations that are better informed and nimbler in adapting to new circumstances. Whilst technological advances will continue to provide better and more cost-effective ways of managing patients, history has demonstrated that it is an enormous challenge for NHS organisations to reap these benefits.

Capita can help provide the access to resource, investment and sharing of best practices across a range of sectors that would not otherwise be available in order to help NHS organisations rise to this significant challenge.
To help explain this further – and illustrate our capabilities and expertise – we consider organisations that Capita is working with.

**Barking and Dagenham, Havering and Redbridge CCGs** have a history of innovation – the creation of ‘Health 1000’ is a good example of ground-breaking work: a case-managed model of care for 1,000 patients with the most complex health and care needs (minimum of 5 issues) within their population footprint. The programme is designed to test a concept and provide evidence which, it is hoped, will be of value both locally and nationally. Commissioners can explore how this kind of multi-disciplinary team can be built, what the true cost of managing these patients is, and how to provide payment, governance and IT support to make it all work.

Health 1000 has a consultant geriatrician, GPs, nurses, social worker, occupational therapist, physiotherapist, pharmacist and administrative staff, and all have been very positive about the model. This multidisciplinary team is able to prioritise its own work and react to the changing state of patients. Bringing resources together has helped avoid acute admissions.

Data is shared more widely, generating more accurate and in-depth datasets to help determine the best course of treatment.

The ability to view and record data, real time, in patients’ homes is clearly an essential requirement for this type of service. Considerable progress has been made in respect of the electronic record and shared care plans. These can now be completed in the patient’s home and, with their consent, be shared with professionals involved in their care.

By providing access to these patients’ records across organisations, and by focussing on their needs (care, treatment and preventative measures) the organisation hopes to reduce their impact and dominance on the overall care budget and vastly improve the patients’ outcomes and capability to give all their patients the attention they need.

**Ashford and St Peter’s Hospitals NHS Foundation Trust** has set out to focus on achieving a high quality of care to ensure patients have a positive experience.

An analysis of the Trust’s data showed improvements were needed in two areas: discharge of patients to their usual place of residence, and mortality rates. The management team visited neighbouring trusts to see what best practice looked like and subsequently decided to set up a group of senior clinicians to carry out a detailed review of the data.

The group’s objective was to use data to drive a change in behaviour and encourage improvement. Led by the medical director and chief nurse of patient safety (deputy medical director), the data was reviewed by specialty to see whether clinical processes could be improved. This specialty-level review led by senior clinicians was critical to changing the culture within the Trust.

The medical director and deputy medical director were able to work alongside other clinical directors and clinicians, creating true clinical leadership. It was important to get all staff on board to ensure the data was accurate and to get them to understand its importance.

Patient feedback is crucial to improving care. Nurses use the NHS Friends and Family Test at ward level to find out where the focus needs to be. Also crucial to the strategy is a firmly held belief that leadership is not just for senior staff. The trust is also taking part in the national ‘Be the change’ initiative to empower all staff to identify opportunities for quality improvement. An example of this is the ‘15 Steps Challenge’, to discover what patients think and feel about their experience when they visit an outpatient clinic.

The Trust has also signed up to the ‘One Small Thing’ campaign, where staff at all levels ask patients what one small change would make a difference to them. A striking example of this was the case of a young patient with learning difficulties who was nearing the end of her life. At her bedside her mother mentioned to her nurse that her daughter loved Christmas and so, in the middle of August, her room was adorned with tinsel and decorations, with Christmas music playing.
As a result of the Trust’s focus on high-quality care, the number of patient complaints is decreasing. When a complaint is made, it is now often followed by a letter of thanks for how it was resolved in a speedy and compassionate way. The Trust also set up a programme of work with dedicated clinical leadership to focus on sepsis. Again, this is in line with national initiatives, but was borne out of an issue discovered in the emergency department and other areas when it came to managing deteriorating patients. The Trust’s CQC rating has now improved to ‘good’.

Imperial College Healthcare NHS Trust decided it needed to be able to monitor data quality and operational processes across the patient pathway, ahead of deploying a new patient administration system (PAS). By understanding where errors were being made the Trust was able to identify key risk areas, for example, potential issues around patient safety and ensuring accurate payments from commissioners. This insight helped to ensure a smooth transition to the new PAS.

Moving to a new PAS was a major undertaking for the Trust and it was seen as an important step in its journey towards making the electronic patient record (EPR) available wherever there is a clinical need. The new PAS was going to be used to manage inpatient admissions, discharges and transfers, as well as referrals and outpatient clinics. However, switching to a new PAS can be a fraught time for any trust and, for many, the implementation can lead to confusion, delays and frustration. Imperial College Hospital NHS Trust wanted to minimise any problems caused by the transition and ensure that it could anticipate where any issues might arise. A further challenge the Trust faced was how to raise awareness of the importance of data quality and to encourage individuals to make it a priority. Data quality can often be seen as someone else’s problem and it therefore requires a cultural change alongside a process change.

The Trust approached Cymbio, part of Capita Health Partners, and decided to use Cymbio’s Process Analytics Dashboard which monitors a set of key performance indicators at multiple points throughout the patient pathway to highlight data quality issues and bottlenecks in operational process. The dashboard can be quickly deployed onto almost any PAS and includes a library of pre-defined key performance indicators. This makes it possible to identify which processes are being performed inconsistently and which individuals within the organisation are responsible.