

Empowering analysts to unlock the potential of NHS data for integrated care



A desperate need for data driven decision making

An ageing population, increasing multi-morbidity, and the devastating effects of Covid-19 combined with a (re)focus on financial efficiency. The current operating environment for the NHS is extremely challenging.

Integrated Care Systems (ICSs) have been operational as statutory bodies since July 2022. Their aim is to deliver more integrated care for citizens in the area through greater collaboration across health and care providers and organisations. With this, the relevance and importance of taking a population health management (PHM) based approach to healthcare has increased.

[Strikes announced at the beginning of October 2023 marked the eleventh month of industrial actions across the NHS.](#) Over a million hospital appointments have been impacted by industrial action. In the short-to-medium term, this will increase the need for more sophisticated approaches to planning and waiting list management.

In combination, the above has created a perfect storm, where overcoming challenges and adopting a different approach to planning and delivering care needs to be fully enabled by data.



Data and insights can help

A 'top to bottom' approach to waiting lists will not suffice. For operational recovery, data can help us to identify the specialties and activities on waiting lists that require more focus. We can tackle waiting lists in a more intelligent, risk-managed and clinical needs driven way.

In driving cost efficiencies, data analysis is crucial to identify the baseline position; conduct benchmarking and quantify opportunities to save money. We can undertake research on clinical and cost effectiveness of novel workload management solutions.

Data, linked across the appropriate care settings, is crucial in identifying the patient cohorts, appropriate interventions, and monitoring outcomes during population health management.

You can understand gaps in your workforce plan. Linking activity, budget, and workforce datasets enables you to accurately understand the current position as well as model scenarios of what may occur in the future. Data can also help evaluate the [impact of service innovations](#) and gather evidence to inform long-term funding plans.

The NHS is investing in important national initiatives. Frontline digitisation will increase the number of Trusts with Electronic Patient Records (EPRs) of an acceptable standard set by the programme. The [Federated Data Platform \(FDP\)](#) will enable linking of data and collaboration, across different geographic and organisational boundaries, to build effective digital solutions. These initiatives will enable better use of data that benefits patients through more joined up care and improved health outcomes.





Data and shiny new technology won't be enough

A supportive data culture is needed to maximise the value from the data and data insights. Clinical engagement is key to drive actions - [Creating a clinical data culture - KPMG United Kingdom](#) - for example, in deciding to take a preventative (population health), risk or clinical need-based approach to care delivery. For example, should we prioritise the care of patients on a waiting list or follow up patients in an outpatient setting.

Good quality and (near) real time data is needed to feed the planned data systems. Most data capture is still manual and inputted by frontline staff. Clinicians need to be motivated to invest time in inputting data and taking part in data quality initiatives. This must be supported by an enabling environment - enough time and headspace, user friendly systems and tools.

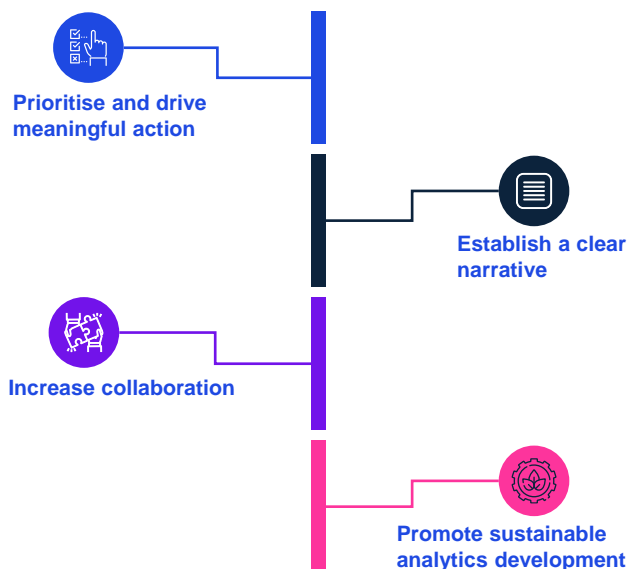
Creating this positive culture and engaging clinicians successfully requires data analysts to have a different mindset and a broader non-technical skillset than we might have traditionally expected. To support this mindset change, analysts will need the time to focus on activities other than statutory reporting and low value ad-hoc requests. Developing their core skills will enable analysts to communicate better, gain buy-in for the importance of data, and collaborate (in a multi-disciplinary way) with clinicians, operational, and managerial staff.



What must the data analysts of the future be able to do?

ICSs bring together a wide range of partners across health and social care, with access to considerable data on local populations. Harnessing this data, being able to derive insight, communicate and drive action against longer-term outcomes, will be key requirements for the analyst of the future.

To translate data into insight, analysts need to be competent in operating across four key areas:



Area one - How can they prioritise and drive meaningful action?

Driving meaningful action starts with a clear understanding of the priorities of the ICS. They will use data and associated insight to identify those actions that will have the greatest impact in achieving these. When setting priorities, analysts will need to explain clearly and evidence the decisions that have been taken – data will be vital to demonstrating this.



Area two - How can they establish a clear narrative to justify an approach and remain adaptable to changing requirements?

Data analysts need be able to draw on domain knowledge and apply structured presentation and storytelling techniques to get the buy-in from a variety of stakeholders. Following an agile development approach will enable them to account for changes and refinements to requirements.



Area three - How can they increase collaboration across the systems, in analytics roles and the wider organisation?

Analysts will need to deploy their skills alongside clinicians, operational staff, managers, and citizens. They will embed data alongside clinical judgement, pathway design, and user experience to shape the services of the future.



Area four - How can they promote a sustainable view of analytical capability development and share individual and organisational success?

We must build confidence in data and analytics. There are, understandably, concerns about data being misused. Analysts have the power to help ICSs make decisions that can improve outcomes, experience, and value-for-money. Data and analytics teams need to be seen as a key driver of change, and one that is embedded within the decision-making process.





How to equip analysts for the future

To become embedded in the decision-making process, analysts will require a core skillset covering technical and non-technical areas.

The NHS recognises the key role data professionals will play in the future. The recently launched [National Competency Framework \(NCF\) for Data Professionals in Health and Care](#) sets out a roadmap to standardise and professionalise data analyst, data engineer, and data scientist roles. As a competency framework, it shows the activities analysts should be capable of completing, to help inform their planned development activities.

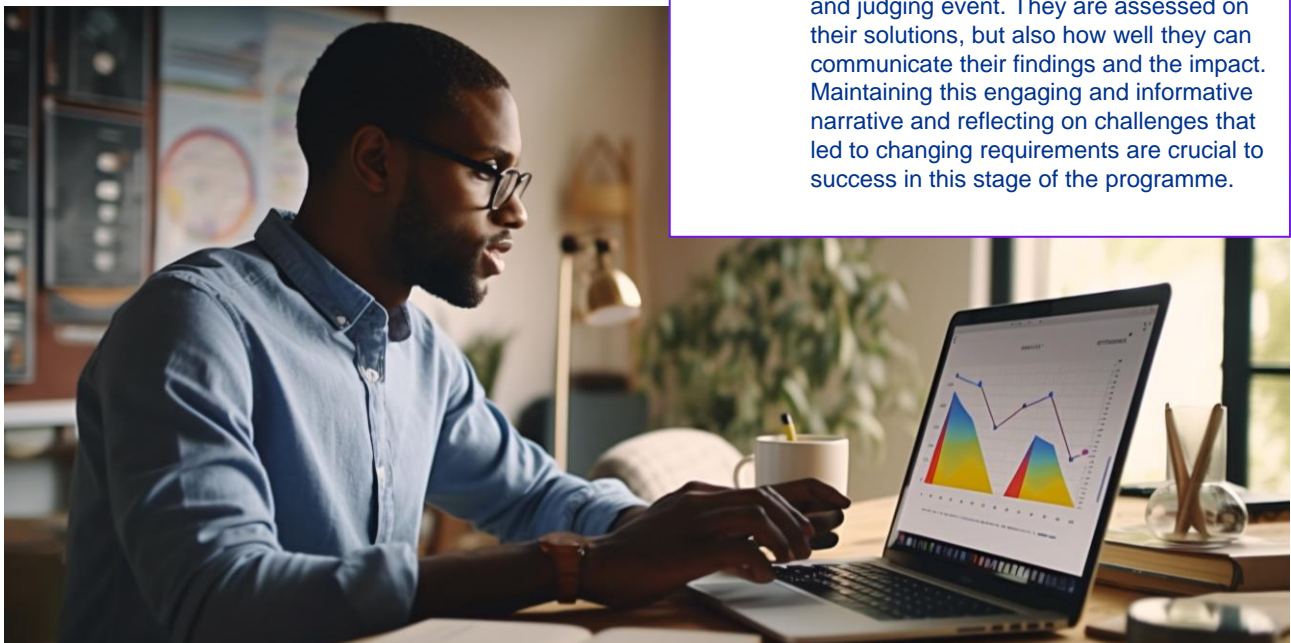
The Analytics Learning Programme has been built around a distillation of 10 core competencies and skills that analysts require now and in the future. The KPMG Analyst Competency Framework is aligned with the NCF and Digital Data and Technology (DDaT) frameworks. It takes a comprehensive view of analyst competencies, promoting curiosity and active listening, domain knowledge and storytelling with data, alongside programming and agile development.

Analysts are involved in an end-to-end learning and development journey with the chance to collaborate and solve real challenges their organisations face. The programme encourages a mindset and culture change, empowering analysts and their teams to move away from statutory and ad hoc reporting, towards strategic, value adding work.



The Analytics Learning Programme can help

The Analytics Learning Programme can help analysts to address key challenges across the four areas identified previously.



Area one - How can they prioritise and drive meaningful action?

Nearly 50 participants from North East and North Cumbria (NENC) Integrated Care System are currently undertaking the programme to learn about the strategic priorities of systems and teams, particularly relating to Intelligence Functions and Population Health. When it comes to the hackathon, teams work on a list of prioritised use cases that have been identified under pre-agreed strategically important themes, whether that be supporting Elective Recovery or aiding Winter Planning.

These experiences help analysts understand how data initiatives are identified, prioritised, and supported. Importantly, they also demonstrate what can be achieved by small teams in a short space of time, taking focused action to address requirements, and as a result, contribute towards the understanding of real-world challenges. The future potential of their proof-of-concept solutions also helps them to consider the roadmap towards implementation and adoption.



Area two - How can they establish a clear narrative to justify an approach and remain adaptable to changing requirements?

The ALP competency framework does not focus solely on technical skill, or analytical complexity. The framework gives equal importance to presentation and storytelling, as well as encouraging an agile approach to arrive at the most appropriate solution for the problem in its latest form, not the problem as it was first set out in the brief. All of these skills are covered in the virtual classrooms and then put into practice in the hackathon. Teams are put to the test at the end of the Hackathon with a presentation and judging event. They are assessed on their solutions, but also how well they can communicate their findings and the impact. Maintaining this engaging and informative narrative and reflecting on challenges that led to changing requirements are crucial to success in this stage of the programme.



Area three - How can they increase collaboration across the systems, in analytics roles and the wider organisation?

Collaboration is crucial to learning and innovation. Integrated Care Systems bring together a vast array of individual expertise and experience from different care settings. Throughout ALP virtual classroom delivery, we encourage integration and knowledge sharing in breakout sessions and interactive activities. However, we see this most vividly in the ALP hackathon where cross-organisational, cross-functional teams work on their chosen use case.

Each problem statement has a use case owner who helps clarify the challenge and guide the teams towards a solution that will be beneficial for them and others. Every interaction, whether with analyst, clinical, or operational colleagues builds connection between often siloed or disparate teams. The value and potential of these connections cannot be underestimated.



Area four - How can they promote a sustainable view of analytical capability development and share individual and organisational success?





The programme doesn't end after the hackathon. As well as the re-run of the competency assessment, participants are encouraged to continue their journey and help their wider analytics community. This is done through identifying and supporting analytics champions and trainers of the future.

We've seen this work to great effect in Wales with participants from the first phase of ALP, supporting classroom delivery for phases 2 and 3. This reflects a wider practice of sustainable team and culture development around data and analysis, where everyone embraces a new mindset, shares their knowledge, and expects to receive support and insight from others in return.

With alignment to the National Competency Framework, ALP can contribute to the long-term development goals of individuals and teams across the country, as well as awareness of the core skills within the analyst toolkit. ALP showcases what teams of talented and driven analysts can achieve for their organisations in a short time together.

ALP has a track record of impactful results and industry-wide recognition of success

As of now, over 150 participants have been trained across health and care in England and Wales, across more than 40 different organisations, including Trusts and Health Boards. Of more than 100 analysts who have completed the programme from end-to-end so far, we've seen:

-  a **22%** average increase in overall participant competency level
-  at least **3** in 4 participants improved their competency scores across at least 8 of the 10 competencies during the programme
-  nearly **50%** of participants were rated as strong across all 10 competency areas post programme
-  more than **25** separate real life use cases identified, scoped and taken forward, covering a range of strategic priorities from winter planning and elective recovery to agency nurse spend and blood service donations

The programme has also received external industry recognition within public sector and beyond:

- Runners up in the 'Collaboration' category at the Analysis in Government awards 2022
- Shortlisted for the DataIQ Awards 2023 for 'Best Data Academy or Skills Development Programme'

If you'd like to read more about the Analytics Learning Programme, visit: [Training for the skills of the future](#)

Or read more of our thought leadership pieces here:

- [The importance of data analysis skills](#)
- [High impact training to bridge the digital skills gap](#)



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Document Classification: KPMG Public

CREATE | CRT 152607A | November 2023