



Midlands Decision Support Network Training & Development Prospectus 2022/23

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<p>Improving decision-making practice</p> <p><i>Providing system leaders with practical tools & techniques for making better, more analytically-informed decisions</i></p>	<p>Developing analytical leaders</p> <p><i>Fostering the skills analysts need to work more closely and effectively with decision-makers</i></p>
<p>Strengthening analytical capability</p> <p><i>Building technical skills to undertake high-quality strategic analysis</i></p>	<p>Moving beyond the numbers</p> <p><i>Ensuring decisions are informed by findings from a range of disciplines</i></p>

Overview

"I honestly thought the training was exceptional. I had an understanding of economics, but it allowed me to consider it in the round rather than something that is 'handled by other people'." Participant from the 'Economics for Non-economists' workshop, 2022

We have designed a free Training & Development programme with the core objective of improving strategic decision-making in Integrated Care Systems (ICSs) across the Midlands region. The programme aims to support the development of each of the ICS's intelligence functions alongside a wider cohort of analysts, researchers and decision-makers in the Midlands by increasing specialist skills in analysis, evidence review, evaluation and decision-making. It seeks to advance the skills and confidence of analysts and leaders by providing a range of tailored courses which cover analytical methods, leadership skills and decision quality.

Defining the training needs

Each element of the training programme has been selected to address skills and knowledge gaps and to contribute to improving decision-making in ICSs in the Midlands. It has been defined in response to preferences of the MDSN strategic board and system intelligence function leads, surveys of professional communities of practice (e.g. the Midlands Analyst Network) and regional analytical skills assessments undertaken by OHID staff. Moreover, it reflects the Strategy Unit's work with the NHSE/I national team and the Association for Professional Healthcare Analysts in defining the nature of intelligence functions and the competencies required from staff and aligns with many of the recommendations of the recently published [Goldacre review](#).

This Prospectus covers a number of long and shorter courses, which are grouped under these themes:

- **Improving decision-making practice:** Providing system leaders with practical tools & techniques for making better, more analytically-informed decisions
- **Strengthening analytical capability:** Building technical skills to undertake high-quality strategic analysis
- **Developing analytical leaders:** Fostering the skills analysts need to work more closely and effectively with decision-makers
- **Moving beyond the numbers:** Ensuring decisions are informed by findings from a range of disciplines

Who is it for?

The Prospectus covers training that is freely available to people who work in health and care organisations in the Midlands, for example hospitals, Integrated Care Boards (ICBs), local authorities, public health teams and so on. Those people who work within or who support ICSs in the Midlands will be prioritised if spaces are restricted, but other Midlands public sector employees will be welcomed if there are sufficient spaces. Each course has a suggested target audience.

How do you access the training?

If we are actively recruiting to a course, then there will be a link to an online application form in the 'How to apply' section of the Prospectus against a particular course. [Most live courses will be available to access via the Midlands Decision Support website](#). For longer courses, such as Leadership Development for Analysts, the participant selection process often involves the MDSN Intelligence Function Leads and / or the Chief Analysts in each of the different systems who will help prioritise attendance. For details of your local Intelligence Function Lead, see ['The Midlands Integrated Intelligence Functions'](#) webpage.

Most of these courses are paid for by the annual subscriptions from each of the ICSs in the Midlands and there is no further cost to individuals accessing the training.

For more information about any of the courses here or queries in general about training and development contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net).

Updates

This Prospectus is 'live' and is updated regularly throughout the year. Any significant changes, such as the introduction of a new longer course, and will be shared directly with MDSN Intelligence Function Leads and via our communities of practice, including the Midlands Analyst Network. [It will also be available on the website and all individual training courses will be accessible via the website.](#)

For more information about any course shown here, or about the Training & Development Programme in general, please contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)

Improving decision-making practice

Providing system leaders with practical tools & techniques for making better, more analytically-informed decisions

Developing analytical leaders

Fostering the skills analysts need to work more closely and effectively with decision-makers

Strengthening analytical capability

Building technical skills to undertake high-quality strategic analysis

Moving beyond the numbers

Ensuring decisions are informed by findings from a range of disciplines

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<h3>Improving decision-making practice</h3>				
<p>Decision Quality, Thinking Tools and Economics for non-economists, to Improve Decision-Making</p> <p>Introduction Decision Quality, Thinking Tools and Economics for non-economists – a trio of highly popular face-to-face workshops to improve decision-making, are routinely held in Birmingham, but we will also deliver these in your local system and we can run any combination for you (including all of three). See development workshop flyer.</p>				
<p>Introduction to Decision Quality for Leaders 1-day workshop</p> <p>Go to Contents page</p>	<p>Decision Quality, Thinking Tools and Economics for non-economists – a trio of highly popular face-to-face workshops to improve decision-making, are routinely held in Birmingham, but we will also deliver these in your local system, and we can run any combination for you (including all of three). See the development workshop flyer. These workshops are an opportunity to bring together 15-20 senior analysts and current/aspiring decision-makers from your system.</p> <p>Decision quality is a fundamental, but neglected, route to improvement. Advance your practice with this development programme.</p> <p>The Strategy Unit, working on behalf of the Midlands Decision Support Network, has devised a development programme to improve decision quality. It is designed for current and aspiring leaders in health and care.</p> <p>The programme is founded on the view that decision making is utterly fundamental – but that very few leaders, organisations or systems focus specific attention on it. It is designed using insights from a growing literature, alongside research with senior decision makers in the Midlands. It is highly applied and overall feedback has been excellent. Participants will leave the programme with:</p> <ul style="list-style-type: none"> • an understanding of what decision quality is, • how they can improve decision quality in their team, and • a selection of tools to support quality decision making. <p>This highly applied and participative development programme is designed for current and aspiring leaders in health and care across the region. The programme is designed to improve strategic decision making in Midlands' Integrated Care Systems. It will provide you with cutting-edge thinking, practical tools, and analytically grounded techniques. It will leave you equipped to improve decision making in your organisation and ICS.</p> <p>Overall feedback to date has been excellent. Participants will leave the programme with understanding of decision quality, how they can improve it in their organisation and ICS and a selection of tools to support quality decision-making.</p> <p>For deeper learning, covering more tools and examples, see the 2-day Decision-Quality for Leaders training.</p>	<p>Current and aspirant leaders from many backgrounds, including health and social care; public and voluntary sector; healthcare and public health; clinical and non-clinical; commissioners and providers; (etc).</p>	<p>Face-to-face 1 day</p>	<p>Online applications</p> <p>This workshop, along with Decision Quality and Economics for Non-economists can be delivered in local systems either on their own or as a combination of 2 or 3: please contact Rachel.caswell@nhs.net to make arrangements for this</p>

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	<p>Sessions will be:</p> <ul style="list-style-type: none"> • Applied – participants bring examples and decisions they face • Participative – expertise and experience of the room • Challenging – plenty of stimulation, push and pull <p>Your trainer: Your training will be led by: Fraser Battye (Principal Consultant, Strategy Unit)</p> <p>For more information and a short video about the training, see the training webpage</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Decision Quality for Leaders – 2-day course</p> <p>Go to Contents page</p>	<p>This course is 2 days and provides deeper learning around quality decision making with more participation and interaction than the 1-day Introduction to Decision Quality.</p> <p>Decision quality is a fundamental, but neglected, route to improvement. Advance your practice with this development programme.</p> <p>The Strategy Unit, working on behalf of the Midlands Decision Support Network, has devised a development programme to improve decision quality. It is designed for current and aspiring leaders in health and care.</p> <p>The programme is founded on the view that decision making is utterly fundamental – but that very few leaders, organisations or systems focus specific attention on it. It is designed using insights from a growing literature, alongside research with senior decision makers in the Midlands. It is highly applied and overall feedback has been excellent. Participants will leave the programme with:</p> <ul style="list-style-type: none"> • an understanding of what decision quality is, • how they can improve decision quality in their team, and • a selection of tools to support quality decision making. <p>This highly applied and participative development programme is designed for current and aspiring leaders in health and care across the region. The programme is designed to improve strategic decision making in Midlands' Integrated Care Systems. It will provide you with cutting-edge thinking, practical tools, and analytically grounded techniques. It will leave you equipped to improve decision making in your organisation and ICS.</p>	<p>Current and aspirant leaders from many backgrounds, including health and social care; public and voluntary sector; healthcare and public health; clinical and non-clinical; commissioners and providers; (etc).</p>	<p>Face-to-face 2 days 05/12/22 and 12/12/22 (Birmingham) or 07/02/23 and 14/02/22 (Birmingham)</p>	<p>Online applications</p>

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<p>Decision Quality for System Leaders 2-day residential</p> <p>Go to Contents page</p>	<p>In health and care services, decision making affects population outcomes. In some situations, as the pandemic has shown, this is a matter of life and death. In all situations, limited resources must be used to maximum effect.</p> <p>This is a development programme to improve strategic decision making in Midlands' Integrated Care Systems. It will provide you with cutting-edge thinking, practical tools and analytically grounded techniques. It will leave you equipped to improve decision making in your organisation and ICS.</p> <p>Sessions will be:</p> <ul style="list-style-type: none"> • Applied – participants bring examples and decisions they face • Participative – expertise and experience of the room • Challenging – plenty of stimulation, push and pull <p>By the end of the programme, participants will:</p> <ul style="list-style-type: none"> • Be better decision makers and more critical, analytical thinkers; • Know why decision quality matters - and what to do to improve decision quality in their teams, organisations and Integrated Care Systems. • Have tools and methods to use in improving decision quality. <p>Your training will be led by: Fraser Battye (Principal Consultant, Strategy Unit)</p>	<p>Aimed at senior leaders working in health and care in the Midlands (Chief Executives, NHSEI regional directors and their nominees)</p>	<p>Face-to-face, residential</p>	<p>Applications closed</p>

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	<p>Find out more by watching the video of the taster session.</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Thinking Tools – 1-day workshop</p> <p>Go to Contents page</p>	<p>Decision Quality, Thinking Tools and Economics for non-economists – a trio of highly popular face-to-face workshops to improve decision-making, are routinely held in Birmingham, but we will also deliver these in your local system, and we can run any combination for you (including all of three). See the development workshop flyer. These workshops are an opportunity to bring together 15-20 senior analysts and current/aspiring decision-makers from your system.</p> <p>Health and care services need people who can think clearly, flexibly, and analytically. People who can cast new light on familiar problems, and who can create new routes around long-standing obstacles. Services need people with strong ‘thinking skills’.</p> <p>The good news is that these skills can be learnt. So the Strategy Unit, working on behalf of the Midlands Decision Support Network, is offering this one-day, face-to-face training workshop on ‘Thinking Tools’.</p> <p>The session is informal and interactive. You will choose which tools to cover, from a selection including: pre-mortems; problem trees; regression to the mean; breaking the rules; thinking on the margin; Ulysses pacts (and many more).</p> <p>The session is also practical. You will apply the tools to your situation. So you should bring examples of problems, challenges and decisions that you face.</p> <p>By the end of the day, you will have learnt new ways of seeing familiar things. You will be a more independent and analytical thinker, with practical tools to support you in future.</p> <p>Your training will be led by: Fraser Battye (Principal Consultant, Strategy Unit)</p> <p>Find out more by watching Fraser’s short introductory video</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>Anyone working in health and care in the Midlands who aspires to be a more independent and analytical thinker</p>	<p>Face-to-face 1 day workshop 07/11/22 (Birmingham)</p>	<p>Online applications</p> <p>This workshop, along with Decision Quality and Economics for Non-economists can be delivered in local systems either on their own or as a combination of 2 or 3: please contact Rachel.caswell@nhs.net to make arrangements for this</p>
<p>Economics for non-economists</p>	<p>Decision Quality, Thinking Tools and Economics for non-economists – a trio of highly popular face-to-face workshops to improve decision-making, are routinely held in Birmingham, but we</p>	<p>Anyone working in health and</p>	<p>Face-to-face</p>	<p>Online applications</p>

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<p>- 1-day workshop</p> <p>Go to Contents page</p>	<p>will also deliver these in your local system, and we can run any combination for you (including all of three). See the development workshop flyer. These workshops are an opportunity to bring together 15-20 senior analysts and current/aspiring decision-makers from your system.</p> <p><i>“I honestly thought the training was exceptional. I had an understanding of economics, but it allowed me to consider it in the round rather than something that is 'handled by other people'.”</i> Participant from the ‘Economics for Non-economists’ workshop, 2022</p> <p>Do you want to improve your decision making using powerful concepts from economics?</p> <p>Like it or not, economists rule the roost. Their way of viewing the world dominates business, government and public services. Economic thinking determining how resources are allocated and used.</p> <p>Yet the very mention of ‘economics’ can turn people off – and it is not obvious how it relates to improving population health. We might have a vague feeling that economics is about business or finance or GDP or inflation rates (or something).</p> <p>The result? Not enough people in health and care know the positive power of economic thinking.</p> <p>This one-day training workshop aims to change this. It is run by the Strategy Unit, working on behalf of the Midlands Decision Support Network.</p> <p>Because economics is about making choices, the workshop will be especially valuable for decision makers and the people advising them, such as strategists and analysts. At heart, it is for anyone who wants to understand what economic thinking can offer.</p> <p>Workshop content:</p> <p>The day starts from first principles and zero prior knowledge is required. You do not need quantitative skills. And there will be a heavy emphasis on demystifying economic jargon.</p> <p>At every point, concepts and approaches will be applied to health and care services. You will be given opportunity to reflect and apply the material to your day-to-day work. To help this along, you should bring examples of your own challenges and problems.</p> <p>You will leave with powerful concepts and new ways of seeing things. You will understand why cost and price are not the same thing, and why there is no such thing as a free lunch*.</p> <p>* lunch is included...</p> <p>Your training will be led by: Fraser Battye (Principal Consultant, Strategy Unit)</p>	<p>care in the Midlands who aspires to me a more independent and analytical thinker</p>	<p>1 day workshop</p> <p>14/11/22 (Birmingham)</p>	<p>This workshop, along with Decision Quality and Thinking Tools can be delivered in local systems either on their own or as a combination of 2 or 3: please contact Rachel.caswell@nhs.uk to make arrangements for this</p>

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	<p>Find out more by watching Fraser's short introductory video</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>New: Relational dynamics of decision-making</p> <p>Go to Contents page</p>	<p>Working with the underlying dynamics of partnership decision making</p> <p>This is a new, one-day experiential workshop for those working in multi-sectoral partnerships. It is aimed primarily at the board and/or executive team level of individual place-based partnerships, although the approach could equally be used for parallel system-level bodies or provider collaboratives.</p> <p>For partnership decision-making to function well, good processes are not enough: partners need a strengthened capability to work in multiple roles at the same time and to work with the personal and organisational dynamics that inevitably accompany such work.</p> <p>The context</p> <p>Health and care systems are going through (another) major transition. ICSs are starting to take on the weight of planning and accountability for achieving population health and wellbeing outcomes, involving:</p> <ul style="list-style-type: none"> • health and care organisations across public and voluntary sectors working together to define and achieve population outcomes and to design and maintain the multiple, intersecting structures through which this will be done • NHS organisations and Local Authority Social Care provision working together more closely, with a single person accountable for the delivery of shared plans • NHS organisations working together in provider collaboratives, as the balance shifts from competition towards cooperation • cross-sectors partnerships at 'place' level strengthening their shared planning and delivery, potentially with a more diverse range of partners than at system level, whilst also managing their 'joint and several' relations with the system. <p>The workshop is focused on supporting these significant transitions that system and place-based working now requires of local leaders across the sectors.</p> <p>In a very real sense, health and care is 'betting the house' on partnership working, but it's easy for things to go wrong or to struggle with getting real commitment and deep collaboration.</p> <p>The rationale</p> <p>This new working builds on the Strategy Unit's core hypothesis that better public value outcomes flow from the use of better evidence within better decision-making processes.</p> <p>The efficacy of decision-making depends on the quality and appropriateness of:</p>	<p>Aimed primarily at the board and/or executive team level of individual place-based partnerships / emerging multi-sectoral partnerships</p>	<p>Face-to-face 1 day Dates TBC Early 2023</p>	<p>Contact David Frith if you would like to find out more</p>

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	<ul style="list-style-type: none"> the inputs (evidence, analysis, research, engagement) the processes (the '3Ps' of strategy – practitioners/practice/praxis) <p>Both the issues being addressed and the related decision-making processes need to be aware of, and able to manage, both structural and social factors</p> <p>The offer</p> <p>This will be a highly distinctive experience for participants that:</p> <ul style="list-style-type: none"> is experience heavy and theory light in delivery, though firmly rooted in systems psychodynamic theory is practically focused on working together on decision-making will enable participants to work more effectively with the hidden as well as the explicit dynamics of partnership working will support participants in exploring their own deep-rooted ways of working and how these interact with those of others will provide a variety of frameworks that participants can draw on – individually and together – as they return to their shared task. <p>The ask</p> <p>Participation will require a protected day of colleagues' time to come together face-to-face. We also expect it to include participation in a psychometric assessment that will give each participant their own confidential report and an anonymised overview of the group's results.</p> <p>For place-based partnerships, we would expect participants to include the NHS (ICB and local providers), primary care leads, Local Government officers (public health, social care, children's services) and the voluntary and community sector.</p> <p>Sessions are expected to include:</p> <ul style="list-style-type: none"> In at the deep end.... From competition to collaboration From positions to interests Straddling two worlds Managing boundaries Finding, making and taking a role Tying it all together <p>Expressions of interest are invited for participating in the workshop in early 2023.</p> <p>Your trainer: David Frith (Principal Consultant, Strategy Unit)</p>			

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	For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)			
Improvement science Go to Contents page	<p>Improving things in health and care is often challenging. We can increase our likelihood of success if we recognise that improvement is a science and just as the laws of physics govern motion, insights from improvement science, govern improvement efforts.</p> <p>Your trainer: Professor Mohammed A Mohammed</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Anyone working in health and care in the Midlands who is interested in improving health and care services	Online 1 day (9:30-16:00) 16/02/23	Online application
Understanding variation Go to Contents page	<p>Wide variations in processes and outcomes of health care raise concern about quality of care and resource use in the NHS. During the last century, manufacturing industry has achieved great success in improving the quality of its products. In industry, the definition of quality is: "on target with minimum variation". There are profound differences between the ways in which the NHS and industry attempt to understand and reduce variation.</p> <p>Your trainer: Professor Mohammed A Mohammed</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Anyone working in health and care in the Midlands who is interested in understanding and reducing variation in health and care	Online 1 day (9:30-16:00) 08/02/23	Online application
New: Systems thinking Go to Contents page	<p>Integrated Care Systems (ICS) face many challenges of working across different organisations and boundaries, Systems Thinking draws on the key insights from systems theory to help leaders and decision makers understand the barriers and enablers to effective systems leadership.</p> <p>Your trainer: Professor Mohammed A Mohammed</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Anyone working in health and care in the Midlands who is interested in the insights you can get from systems' theory to lead and manage complex systems	Online ½ day (09:30-13:00) Dates TBC	Online application (to follow)

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<p>Understanding and reporting Hospital Mortality Statistics</p> <p>Go to Contents page</p>	<p>Hospital mortality statistics are widely used but widely misinterpreted. This course will help you understand what you can and cannot learn You will learn how they are derived and (ab)used. You will learn how best to report mortality statistics and understand how to investigate a high/low hospital mortality statistic.</p> <p>Your trainer: Professor Mohammed A Mohammed</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>Anyone working in health and care in the Midlands who is interested in understanding hospital mortality statistics</p>	<p>Online ½ day (09:30-13:00) 17/01/23</p>	<p>Online application</p>
<p>Theory of Constraints for Patient Flow Course</p> <p>Go to Contents page</p>	<p>It is traditionally difficult to achieve a breakthrough in performance in a healthcare system and all the more so in a rapid timescale. This session will enable you to lead and deliver a sustainable breakthrough in performance on patient flow in a remarkably short time scale. If you want to understand why this is possible and how to achieve such a sustained breakthrough then this program is for you. This training looks across the whole healthcare system.</p> <p>Outline of the content:</p> <ul style="list-style-type: none"> • Understanding the importance of managing patient flow in improving quality of care, access to care, length of stay and financial affordability of care. • Understanding healthcare systems as seemingly complex environments of emerging dependent events and statistical fluctuations often skewed in nature. The implications for planning and improving these systems. • A detailed explanation of the Theory of Constraints (TOC) and how it can achieve a breakthrough in performance for acute, care, community care and mental health environments in a remarkably short timescale. • How to carry out an analysis of a healthcare system and rapidly identify the few underlying constraints impacting the performance of the system and the necessary and sufficient TOC based actions to rapidly improve patient flow. • Understanding how to apply 'time buffer management' to healthcare systems and its use to improve flow and focus improvement efforts on the few key underlying constraints. • Understanding the key measures in managing and improving flow and how to implement them. • The role of software in improving and managing patient flow. <p>The learning outcomes:</p> <p>On completing the session, you will be able to:</p>	<p>For those with a management / director / clinical leader role in a healthcare system or be involved in analysis and / or performance improvement of such systems.</p>	<p>1 day (09:30-16:30) Dates TBC</p>	<p>Online application</p>

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	<ul style="list-style-type: none"> Carry out an initial analysis of your healthcare system, hospital, or stream of care and identify the few key actions required to achieve a rapid improvement in performance. Implement a simple buffer management system to help improve patient flow and focus improvement efforts. Lead a focussed process of ongoing improvement in your own healthcare system. Provide clinical and management leadership with the direction and insight you need to achieve a breakthrough in performance. <p>Course description:</p> <p>The program will consist of a combination of presentations, educational simulations, case studies and discussion. This will allow participants to actively engage in exploring how the approaches can be implemented in their own setting.</p> <p>Pre-requisites:</p> <p>There are no formal prerequisites although the participants will be guided to read 'Pride and Joy' by Alex Knight and will be expected to either have a management/director/clinical leader role in a healthcare system or be involved in analysis and/or performance improvement of such systems. It is also suitable for people leading operational change in such systems.</p> <p>Your Trainer: Alex Knight</p> <p>The course will be led by Alex Knight who is considered as the leading authority in the application of TOC in healthcare and has successfully applied the approach in acute, community, mental health care in many countries around the world.</p> <p>His book 'Pride and Joy' is written as a novel to help engage clinical and managerial leaders in achieving similar breakthroughs in their own healthcare systems.</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Improving and evaluating services across organisational boundaries with the Public Sector Scorecard</p>	<p>This interactive workshop will give you considerable insight into performance management in health and public services. It will enable you to use strategy mapping, the Balanced Scorecard and the Public Sector Scorecard. The latter is an integrated strategy mapping, service improvement and performance measurement framework for the public and third sectors, which has been used in six continents. Its outcome focus has proved particularly useful in working across organisational boundaries in health and public services.</p> <p>Outline of the content:</p>	<p>The workshop is especially suitable for managers, analysts and professionals working in health and social care.</p>	<p>Online 1 day (09:30-16:00) Dates TBC</p>	<p>Online application</p>

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<p>Go to Contents page</p>	<p>The workshop will be interactive with breakout groups. You will be encouraged to apply the learning to your own organisation or project. Topics covered include the following:</p> <ul style="list-style-type: none"> • Eleven essentials of performance measurement • Systems thinking in health and public services • The balanced scorecard and strategy mapping • The Public Sector Scorecard • Dashboards and all that – issues in measuring performance • Developing strategy maps and performance measures for your organisation or project <p>Learning outcomes</p> <p>Learn how to use the Balanced Scorecard and the Public Sector Scorecard to develop strategy maps and associated performance measures for your own or a client organisation</p> <p>Be able to manage and measure performance, based on a culture of innovation and learning rather than a top-down blame culture.</p> <p>Greater understanding of delivering user-focussed services, systems thinking, and measuring and managing performance in the public sector.</p> <p>Understand the role and purpose of strategy mapping, the balanced scorecard and the public sector scorecard in delivering better outcomes for service users and other stakeholders.</p> <p>Learn from several case studies on performance management across organisational boundaries (including integrating health and adult social care, reducing obesity & smoking cessation)</p> <p>A unique chance to benefit from tailored and bespoke training from the founder of the Public Sector Scorecard to help drive improvements in performance in your own department and organisation</p> <p>Insight and tips on the latest methodologies and thinking to help drive successful service outcomes.</p> <p>Your trainer: Max Moullin</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<h3>Strengthening analytical capability</h3>				

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Population Health Management (PHM) and Analytics Go to Contents page	<p>Population health is an important priority for the health and care system and is key in addressing health inequalities. This is clear in the NHS Long Term Plan, in the 2022 Health and Care Act, and in the current and likely future policy landscape.</p> <p>This course is for technical and non-technical audiences, depending on the sessions attended.</p> <p>Individuals select modules based on existing level, experience and interest.</p> <p>Analytical audiences would be encouraged to attending 1, 3-11 (with the option of 2) sessions and a non-technical audience would be encouraged to attend sessions 1,2,5,7,9 and 11</p> <p>Each session is designed to provide in-depth knowledge into one specific field related PHM.</p> <table border="1"> <thead> <tr> <th>Module No.</th> <th>Session title</th> <th>Technical?</th> <th>Date and registration link</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Introduction to PHM</td> <td>No</td> <td>06/09/22 (10:00-12:00)</td> </tr> <tr> <td>2</td> <td>How systems work together</td> <td>No</td> <td>13/09/22 (13:00-15:00) Dates TBC</td> </tr> <tr> <td>3</td> <td>Introduction to R for PHM</td> <td>Yes</td> <td>20/09/22 (14:00-16:00)</td> </tr> <tr> <td>4</td> <td>Introduction to statistics for PHM</td> <td>Yes</td> <td>27/09/22 (13:00-15:00)</td> </tr> <tr> <td>5</td> <td>Understanding population segmentation for your local population (Overview)</td> <td>No</td> <td>04/10/22 (13:00-15:00)</td> </tr> <tr> <td>6</td> <td>Doing population segmentation for your local population (Technical)</td> <td>Yes</td> <td>12/10/22 (11:00-13:00)</td> </tr> <tr> <td>7</td> <td>Understanding risk prediction and stratification for your local population (Overview)</td> <td>No</td> <td>18/10/22 (13:00-15:00)</td> </tr> <tr> <td>8</td> <td>Doing risk prediction and stratification for your local population (Technical)</td> <td>Yes</td> <td>26/10/22 (15:00-17:00)</td> </tr> <tr> <td>9</td> <td>Understanding impactability for your local population (Overview)</td> <td>No</td> <td>01/11/22 (13:00-15:00)</td> </tr> <tr> <td>10</td> <td>Doing causal inference for impactability assessments for your local population (Technical)</td> <td>Yes</td> <td>08/11/22 (15:00-17:00)</td> </tr> <tr> <td>11</td> <td>Closing the PHM cycle: An introduction to Evaluation</td> <td>No</td> <td>15/11/22 (13:00-15:00)</td> </tr> </tbody> </table>	Module No.	Session title	Technical?	Date and registration link	1	Introduction to PHM	No	06/09/22 (10:00-12:00)	2	How systems work together	No	13/09/22 (13:00-15:00) Dates TBC	3	Introduction to R for PHM	Yes	20/09/22 (14:00-16:00)	4	Introduction to statistics for PHM	Yes	27/09/22 (13:00-15:00)	5	Understanding population segmentation for your local population (Overview)	No	04/10/22 (13:00-15:00)	6	Doing population segmentation for your local population (Technical)	Yes	12/10/22 (11:00-13:00)	7	Understanding risk prediction and stratification for your local population (Overview)	No	18/10/22 (13:00-15:00)	8	Doing risk prediction and stratification for your local population (Technical)	Yes	26/10/22 (15:00-17:00)	9	Understanding impactability for your local population (Overview)	No	01/11/22 (13:00-15:00)	10	Doing causal inference for impactability assessments for your local population (Technical)	Yes	08/11/22 (15:00-17:00)	11	Closing the PHM cycle: An introduction to Evaluation	No	15/11/22 (13:00-15:00)	<p>Analysts and non-technical audience in Health and care in the Midlands</p> <p>No prior knowledge of Population Health Management and analytical sessions required, a numerical background only.</p>	<p>Online</p> <p>11 x 2 hr sessions</p> <p>Talks spaced with interactive discussion and practical activities</p> <p>2 cohorts</p> <p>Cohort 1 starts: September 22 Cohort 2 starts: January 23</p>	<p>Online registration – see links in table to the left</p>
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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply																								
	<p>Your training will be led by: David Sgorbati (Chief Analyst, Health Economics Unit)</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>																											
<p>Introduction to Health Economics</p> <p>Go to Contents page</p>	<p>This course is for technical and non-technical audiences, depending on the sessions attended. Individuals select modules based on existing level, experience and interest.</p> <p>Analytical audiences should attend all 5 modules and non-technical participants would be encouraged to attend modules 1,2,3, and 5</p> <p>Each session is designed to provide in-depth knowledge into one specific field related to the conduct of health economics analyses.</p> <table border="1"> <thead> <tr> <th>Module No.</th> <th>Session title</th> <th>Audience</th> <th>Date and registration link</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Health Economics Foundations - introduction to health economics for non-economists,</td> <td>Broad</td> <td>25/10/22 (13:00-15:00)</td> </tr> <tr> <td>2</td> <td>Evaluating Service Change and Transformation Programmes - for service change and transformation</td> <td>Transformation</td> <td>03/11/22 (13:00-15:00)</td> </tr> <tr> <td>3</td> <td>Critical Appraisal of Published Economic Evaluations - for those reviewing studies previously conducted and</td> <td>Broad</td> <td>10/11/22 (10:00-12:00)</td> </tr> <tr> <td>4</td> <td>Decision Modelling for Health Economic Evaluation -an introduction to decision models used by health economists</td> <td>Analytical</td> <td>17/11/22 (13:00-15:00)</td> </tr> <tr> <td>5</td> <td>Inequality in Health and Health Care - different types of inequality and how to address it.</td> <td>Broad</td> <td>24/11/22 (14:00-16:00)</td> </tr> </tbody> </table> <p>Your training will be led by: Lisa Cummins and Anna Buylova (Health Economics Unit)</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Module No.	Session title	Audience	Date and registration link	1	Health Economics Foundations - introduction to health economics for non-economists,	Broad	25/10/22 (13:00-15:00)	2	Evaluating Service Change and Transformation Programmes - for service change and transformation	Transformation	03/11/22 (13:00-15:00)	3	Critical Appraisal of Published Economic Evaluations - for those reviewing studies previously conducted and	Broad	10/11/22 (10:00-12:00)	4	Decision Modelling for Health Economic Evaluation -an introduction to decision models used by health economists	Analytical	17/11/22 (13:00-15:00)	5	Inequality in Health and Health Care - different types of inequality and how to address it.	Broad	24/11/22 (14:00-16:00)	<p>Analysts and non-technical audience in health and care in the Midlands</p> <p>No prior knowledge of Health Economics</p>	<p>Online</p> <p>5 x 2hr sessions</p> <p>Talks spaced with interactive discussions and practicals</p> <p>Dates TBC</p> <p>2 cohorts starting September 22 and January 23</p>	<p>Online registration – see links in table to the left</p>
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<p>Introduction into Healthcare Management Science and Operations Research</p>	<p>This course is for those who have a willingness and enthusiasm for wanting to learn and apply Operational Research methods.</p> <p>This course places emphasis on the application of quantitative techniques to problem solving and decision-making related to the management of health resources and providers of care.</p>	<p>This course will be particularly useful for analysts who work in health</p>	<p>Online</p> <p>10 weeks</p> <p>(10x 2.5 hr sessions)</p>	<p>Online application</p>																								

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
<p>Go to Contents page</p>	<p>Lectures by instructor to describe and review concepts and techniques and their applications in the health industry.</p> <p>Discussions to critique the concepts and techniques.</p> <p>Practical training in the use of MS Excel templates and computer simulation software to analyse problems and develop solutions using various Operations Management techniques.</p> <p>What will you learn? You will:</p> <ul style="list-style-type: none"> Identify the role of Management science and Operations research methodology in organizational decision-making, strategic planning and control. Develop proficiency in selecting and applying various quantitative techniques which could be useful in application to various health care services and providers. Review and critique the strengths and weaknesses of the above techniques in relation to their applications in the health care settings. Identify health services problems or problem types amenable to various quantitative techniques. <p>Your trainer: Alex Kolker</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>and care settings, especially those who are based in hospitals and / or provide analytical support to hospitals.</p> <p>Preliminary knowledge of MS Excel including Add-in is needed.</p> <p>A commitment to be able to allocate the necessary time to the training</p>	<p>14:00-16:30)</p> <p>Session 1: 07/11/22</p> <p>Session 2: 14/11/22</p> <p>Session 3: 21/11/22</p> <p>Session 4: 28/11/22</p> <p>Session 5: 05/12/22</p> <p>Session 6: 12/12/22</p> <p>Session 7: 19/12/22</p> <p>Session 8: 09/01/23</p> <p>Session 9: 16/01/23</p> <p>Session 10: 23/01/23</p>	
<p>Introduction to Machine Learning</p> <p>Go to Contents page</p>	<p>Machine Learning refers to the techniques involved in dealing with vast data in the most intelligent fashion (by developing algorithms) to derive actionable insights. This course will explain what Machine Learning is and uses case studies to explore real applications of the approach</p> <p>In this course we will introduce the basic ideas and algorithms of supervised learning and we will implement them using R programming language. A brief theoretical overview of the so-called learning setting will be provided, then the main focus will be on showing practical analysis and modelling of data related to healthcare.</p> <p>Learning outcomes</p> <ul style="list-style-type: none"> To understand concepts of machine learning for healthcare and compare and test a range of techniques. 	<p>Analysts working in a Midlands Integrated Care System with experience of base R and the Tidyverse.</p> <p>You will need, in particular, to</p>	<p>Online</p> <p>5 days</p> <p>(09:30-15:30)</p> <p>05/12/22</p> <p>12/12/22</p> <p>09/01/23</p> <p>16/01/23</p>	<p>Online registration</p>

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	<ul style="list-style-type: none"> To classify features of data sources, analysing and interpreting the outputs of machine learning techniques in the context of practical solutions in the area of healthcare. <p>The programme</p> <p>Day 1: Introduction:</p> <p>What is machine learning? Types of machine learning. Classification and regression. Training and test sets. Model evaluation. Over-fitting. Overview of Machine Learning Algorithms. No free lunch theorem. Cross validation. Practical Examples</p> <p>Day 2: Data Preparation and Feature Engineering: Data analysis and pre-processing, exploratory data analysis, handling missing data. Feature engineering techniques including but not limited to: transformations, feature extraction, reduction and selection.</p> <p>Day 3: Regression (part 1):</p> <p>Single and multiple regression. Linear and polynomial regression. Parameter estimates. Residual analysis. Metrics for model evaluation. Plots and predictions. Feature selection.</p> <p>Day 4: Classification:</p> <ul style="list-style-type: none"> Logistic Regression: why logistic regression; logistic function; simple logistic regression; multiple logistic regression (tentative); ROC curve; feature interpretation; predictions using logistic regression. Decision Trees: classification using decision trees; understanding and visualising decision trees; advantages and disadvantages of decision trees; predictions. Random Forests: from decisions trees to random forests; training and tuning random forests; predictions. <p>Day 5: Regression (part 2):</p> <p>Using decision trees and random forests for regression. Introduction to regularisation (Ridge, LASSO and Elastic Nets).</p> <p>Your trainers are:</p> <p>Filippo Cavallari: Data Science Lecturer, Data Science Campus, Office for National Statistics</p> <p>Penny Holborn: Head of Faculty, Data Science Campus, Office for National Statistics</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>be familiar with the “pipe” operator, the use of dplyr verbs and experience with ggplot2.</p>	<p>03/02/23</p>	

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<p>New: Fundamentals of Data Science for Health and Care in R</p> <p>Go to Contents page</p>	<p>In this course we will introduce the basic ideas of Data Science and we will implement them using the R programming language. We will use the Tidyverse, which is a collection of R packages that facilitate data import, manipulation, encoding, exploration and visualisation. A final session will be dedicated to reporting and the use of R Markdown.</p> <p>Learning outcomes</p> <ul style="list-style-type: none"> To understand basic concepts of data science and how to implement them in R using the Tidyverse. To learn how to extract and communicate insights retrieved through data analysis. <p>The programme</p> <p>Day 1: Introduction to the Tidyverse: Tidy data. The Tidyverse ecosystem. Data import. Tibbles. Dplyr basics. Pipes.</p> <p>Day 2: Categorical Variables: Factors. The package forcats. Modifying factor order. Modifying factors levels.</p> <p>Day 3: Data Manipulation: Dplyr verbs. Numerical summaries.</p> <p>Day 4: Relational Data: Mutating joins. Filtering joins. Set operations.</p> <p>Day 5: Data Visualisation I: Introduction to ggplot2. Creating a ggplot. Aesthetic mappings. Geometric objects.</p> <p>Day 6: Data Visualisation II: More geometric objects. Themes.</p> <p>Day 7: Exploratory Data Analysis I: Visualising distributions. Typical vs unusual values. Missing values.</p> <p>Day 8: Exploratory Data Analysis II: Covariation. A categorical and continuous variable. Two categorical variables. Two continuous variables.</p> <p>Your trainers are:</p> <p>Filippo Cavallari: Data Science Lecturer, Data Science Campus, Office for National Statistics</p> <p>Penny Holborn: Head of Faculty, Data Science Campus, Office for National Statistics</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>A basic knowledge of R can be helpful but not necessary</p>	<p>Online</p> <p>8 half days</p> <p>05/09/22</p> <p>12/09/22</p> <p>19/09/22 (rearranged)</p> <p>26/09/22</p> <p>03/10/22</p> <p>10/10/22</p> <p>17/10/22</p> <p>24/10/22</p>	<p>Online application</p> <p>Applications closed</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
New: Introduction to GitHub	Details to follow	To follow	Online 1 day	Online application (to follow)
New: Introduction to R and R Studio Go to Contents page	<p>R is one of the most powerful data science software solutions used the world over and is being actively promoted by the NHS-R Community. Analysts throughout the NHS and in Social Care are discovering the huge potentials of R which range from analytical and statistical work to creating websites and interactive reports. It's a hugely flexible and versatile language that has far extended its original use for statistics.</p> <p>Learning outcomes:</p> <p>After this one-day introduction, delegates will:</p> <ul style="list-style-type: none"> • See examples of R in producing healthcare related visualisations and use publicly available healthcare data to answer questions. • Recognise and understand key terms often used by users of R. <p>Furthermore, delegates will be able to:</p> <ul style="list-style-type: none"> • Interact with R using the RStudio environment. • Learn how to set up some of the accessibility features of RStudio. • Take charge of their workflow using RStudio projects. • Import data into R using csv files (other data sources will be discussed). • Carry out data manipulation using simple steps to solve complex problems. • Join multiple tables together. • Produce and save plots using ggplot2. • Learn how to find more information on functions within R packages. • Open an RMarkdown template and learn how to get started in producing an integrated text and code report. • Take away ideas for continuing learning after the course <p>No prior knowledge of R is required; however, it is assumed that you will have a moderate level of computer literacy. For example, you will be able to navigate to drives and files and be confident in searching for solutions to technical problems on the internet. You will work with, or have an interest in, data.</p> <p>You are expected to have completed the prework to set up either a laptop with R, RStudio, some packages and download data or have access to and set up an account with RStudio Connect. The RStudio Connect workspace has everything pre-loaded but still requires accessing through an account (some organisations may block this site too so please do check it in advance).</p>	<p>Analysts and anyone interested in learning about R in Health and care in the Midlands</p> <p>Moderate computer literacy</p> <p>You are expected to have completed the prework to set up either a laptop with R, RStudio, some packages and download data or have access to and set up an account with RStudio Connect.</p>	<p>Online 1 day (2 x ½ days, 09:30-12:00)</p> <p>January: 10/01/23 and 11/01/23</p> <p>March: 16/03/22 and 17/03/23</p>	Online application

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<p>Your Trainer: Zoë Turner, Data Scientist at Nottinghamshire Healthcare NHS Foundation Trust.</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Introduction to RMarkdown</p> <p>Go to Contents page</p>	<p>Why RMarkdown</p> <p>RMarkdown is a powerful way of coding manuscripts, reports and managing workflows in R. It can combine many programming languages, along with text and can be extended to build a range of things, including websites.</p> <p>RMarkdown can be used to produce documents of any type, from pdfs and presentation slides to (accessible!) html files supporting interactivity and, behind the scenes, mixing up code with text in a seamless way that feels almost magical. RMarkdown is a natural extension to analysis coding in R and many institutions that teach R use RMarkdown from the first day due to its flexibility for work flow.</p> <p>Learning Outcomes:</p> <p>After this one-day introduction, delegates will:</p> <ul style="list-style-type: none"> Understand more about how RMarkdown works. Learn about the ways of getting the most out of RMarkdown using the RStudio IDE. Learn how to use Command Line to “code” even more functionality that RMarkdown offers. <p>Delegates will:</p> <ul style="list-style-type: none"> Learn about the markdown part of markdown in how to format Text. Will be introduced to how to include images into RMarkdown. Learn more about RMarkdown’s code chunks and explore what their settings do. How to mix up code in your text in order to automate analysis. Learn more about setting out reports using tabs and how to automate these for very long reports. Explore the output formats that are possible with RMarkdown. 	<p>Analysts and anyone interested in learning about R in Health and care in the Midlands</p> <p>Moderate computer literacy</p> <p>You are expected to have completed the prework to set up either a laptop with R, RStudio, some packages and download data or have access to and set up an account with RStudio Connect.</p>	<p>Online</p> <p>1 day</p> <p>(2 x ½ days, 09:30-12:30)</p> <p>February: 06/02/23 and 07/02/23</p> <p>April: 04/04/23 and 05/04/23</p>	<p>Online application</p>

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	<p>Learn about parameters which are used to produce multiple reports that have distinct values for certain categories, for example departments or geographical regions.</p> <p>Be introduced to the power of the Command line coding in relation to RMarkdown which is a step away from using the click once (Graphical User Interface) functionality offered by RStudio.</p> <p>Be briefly introduced to loops in relation to using parameters.</p> <p>Learn about taking existing R scripts and making them RMarkdown (without copying and pasting) and back again.</p> <p>Learn about incorporating SQL code into RMarkdown.</p> <p>Pre-requisites:</p> <p>Some prior knowledge of R is required and has either attended the NHS-R Community Introduction to R and R Studio course or have used some R (but by no means an “expert”).</p> <p>You are expected to have completed the prework and set up an account with RStudio Connect.</p> <p>If you are wanting to use your own computer/RStudio the instructions in this prework will equally work for installing the packages required and the files for the course.</p> <p>Your Trainer: Zoë Turner, Data Scientist at Nottinghamshire Healthcare NHS Foundation Trust.</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>New: System Dynamics Modelling: An Analytics Applied Learning Programme</p> <p>Incorporating an ICS system dynamics pilot</p>	<p>A development programme in modelling systems using System Dynamics, incorporating piloting the use of this method in an ICS context</p> <p>Who is it for? The programme has core training for all participants from individual organisations and ICSs, and enhanced support for up to 3 ICSs participating in the pilot.</p> <p>ICSs are facing the challenges and opportunities of transitioning from service / organisation to system level demand and capacity strategic planning.</p> <p>System dynamics takes a system view and can incorporate population health and needs prediction, to underpin medium and long-term strategic resources (including workforce) planning. It also provides evidence-based decision making for the re-allocation of capacity within a system and new ways of care delivery.</p>	<p>Analysts in health and care in the Midlands</p>	<p>Sep 22 to Mar 23</p> <p>Approximately 20 half days and additional enhanced support for those ICSs in the pilot</p>	<p>Apply via your ICS Intelligence Function Lead</p> <p>Applications closed</p>

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<p>Go to Contents page</p>	<p>System dynamics is an established technique that models the behaviour of complex and interconnected systems over time.</p> <p>These consider aggregates of people as continuous flows, capable of exploring feedback loops and interactions between factors over time. They allow exploration of both intended and unintended consequences.</p> <p>This approach uses evidence and analysis where available but also allowing for building in assumptions so that both explanatory and soft variables can be included.</p> <p>Models are built through participative group model building, where a mixed group of stakeholders collaborate to explore how the system works, its main constraints and dynamic impacts, current challenges and shortages, future policy and possibilities.</p> <p>This type of modelling enables organisations to visualise the system and its influences, to explore via an interface different ‘what if’ scenarios facilitating conversations and to inform their decisions</p> <p>Core training for all: This programme is aimed at any analysts within health and care in the Midlands, who are interested in using system dynamics to map and understand aspects of the health and care system, in order to support decision makers/improve decision-making</p> <p>Enhanced support for up to 3 ICSs: ICS SD pilot sites: The Demand and Capacity programme and The Integrated Urgent Emergency Care (iUEC) Programme, at NHS E/I, are testing strategic demand and capacity modelling for Urgent and Emergency Care Services (UEC) using a System Dynamics approach for NHS ICSs. The Strategy Unit are working alongside them to support a parallel pilot programme in the Midlands region working within the context of the MDSN to build on work already underway. We will be sharing and learning from each other and thus our regional programme also has national impact.</p> <p>Programme objectives</p> <ol style="list-style-type: none"> 1. develop an understanding of how SD can be applied within health and care 2. improve skills in structuring, designing and developing SD models 3. develop an SD model which addresses a specific problem prioritised by your organisation 4. support your system to develop insight into the problem, and gain an understanding of potential solutions create analytical capability within ICSs and local health and care systems to take on SD projects 5. develop a community of practice around SD in health and care <p>For additional information see this recording of a recent Midlands Analyst Network Huddle where Stacey Croft talks about the training. The relevant content starts at 36 mins but the rest of the Huddle is relevant too as it is talking about System Dynamics.</p>			

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	For further information contact Stacey.Croft@nhs.net or Sally.Thompson37@nhs.net			
New: Reproducible Analytical Pipelines (RAP)	<p>A core focus of analyst training – details to follow but will include:</p> <ul style="list-style-type: none"> • Automation using R/R Markdown • Git/Github • Software engineering and version control 	TBC	Online 5 days (09:30-16:00)	TBC
<p>Time series forecasting and decision-making using R</p> <p>Go to Contents page</p>	<p>Time-series forecasting and decision-making</p> <p>Through supervised learning over three, online training days, you will be introduced to time-series forecasting to support decision making in the real world. If you are interested in this free, online training course then please register your interest by completing the linked form below.</p> <p>What will you learn?</p> <ul style="list-style-type: none"> • What is forecasting? • How the forecasting task is different from other modelling tasks? • What is the link between forecasting and decision-making, how to identify what to forecast? <p>Who is this training for?</p> <ul style="list-style-type: none"> • Anyone who wants to understand <ul style="list-style-type: none"> ○ the foundation of forecasting to inform decision-making process ○ theoretical background of forecasting models and use them in R to inform decision-making processes ○ An executive member in charge of planning and decision making who wants to use the output of forecasting process ○ A decision maker who uses forecasting tools to empower decision making ○ A data analyst who wants to gain in depth and comprehensive knowledge of forecasting process using R ○ A forecaster who wants to use R to apply forecasting models <p>Would you like to know how to ...</p> <ul style="list-style-type: none"> • Identify decisions that require forecasting and determine what to forecast? • Identify key features of data using time series analysis? • Apply simple forecasting methods? • Check whether a forecasting model is good? • Produce point forecasts and prediction intervals? 	<p>Analysts in Health and care in the Midlands</p> <p>With experience of 'R'</p> <p>If you do not have the relevant experience with R then see the resources detailed on the webpage</p>	Online 3 days (10:00-16:00)	<p><u>Online application</u></p> <p>(closed)</p>

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	<ul style="list-style-type: none"> • Compute the accuracy of forecasting methods for point and prediction intervals? • Visualize and report forecasts and its accuracy for interpretation and insights? • Understand Exponential smoothing, ARIMA and time series regression models used in forecasting? • Develop computer skills for forecasting time series? • Gain insights into the problems of implementing and operating forecasting systems? • Be confident at selecting and using the right forecasting model and using it to support decision-making in your team or organisation? <p>Your trainer: Dr Bahman Rostami-Tabar: Senior Lecturer in Management Science, Cardiff Business School, Cardiff University</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
Developing analytical leaders				
Leadership Development for Analysts - (Cohort 1 – online) Go to Contents page	<p>Developing strong analytical teams, improving the use of data, and maximising the impact of the profession, requires analysts to be working more closely with decision makers. There is a need to focus on the development of Leadership skills (or ‘softer’ skills), as well as the technical skills, of analysts.</p> <p>What you will learn:</p> <ul style="list-style-type: none"> • What it means to be an analytical leader, exploring different leadership styles and approaches. • How to lead in and with a high performing team. • How to create networks within organisations and systems. • They key components of systems, systems thinking and working in complex systems. • The role of analysts in decision making in health and care. <p>For more information about this course, please contact the course Lead: Rachel Caswell</p>	Senior analysts and analytical team leaders in health and care in the Midlands who want to further develop their leadership skills and knowledge	<p>Online 4 days (09:30-16:15)</p> <p>Cohort 1: 06/12/22 13/12/22 10/01/23 18/01/23</p>	Online application
Leadership Development for Analysts - (Cohort 2 - residential)	<p>Developing strong analytical teams, improving the use of data, and maximising the impact of the profession, requires analysts to be working more closely with decision makers. There is a need to focus on the development of Leadership skills (or ‘softer’ skills), as well as the technical skills, of analysts.</p> <p>What you will learn:</p> <ul style="list-style-type: none"> • What it means to be an analytical leader, exploring different leadership styles and approaches. • How to lead in and with a high performing team. • How to create networks within organisations and systems. 	Senior analysts and analytical team leaders in health and care in the Midlands who want to further	<p>Face-to-face 2 days Residential February / March 2023</p>	Online application to follow

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Go to Contents page	<ul style="list-style-type: none"> • They key components of systems, systems thinking and working in complex systems. • The role of analysts in decision making in health and care. <p>For more information about this course, please contact the course Lead: Rachel Caswell</p>	develop their leadership skills and knowledge		
<p>New: Communication skills</p> <p>Go to Contents page</p>	<p>This training programme will enhance attendees' confidence in communicating with non-technical audiences. The aim is to build a community of motivated and capable analysts and analytical leaders, able to respond to their environment.</p> <p>Attendees can choose to register for any of the modules as they are discrete training sessions – they can do 1, 2 or all 3 modules.</p> <p>Analysts often work in silos and getting their messages across to those in a position to act on their findings is something they can find challenging.</p> <p>The training should <i>also</i> give analysts and analytical leaders the skills and knowledge to help promote their work and the network itself through blogs and opinion articles.</p> <p>The training will be delivered through a series of 3hr workshops covering key communication skills, some delivered presentation-style to a large group and others, more interactive in smaller groups, with coaching to support attendees deliver outputs to support their learning.</p> <p>The course will cover:</p> <ul style="list-style-type: none"> • Module 1: Clear writing: Introduction to clear communications, clear writing • Module 2: Comms planning • Module 3: Presenting your findings <p>This course has been designed specifically for analysts and analytical leaders within the Midlands DSN by a successful, expert communications agency.</p> <p>Your trainers are: CampusPR</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	The focus is on analysts / analytical leaders but also others who want to improve / refresh their communication skills and who work in health and care in the Midlands	<p>Online</p> <p>Three separate half-day modules</p> <p>Register for 1, 2 or all 3 modules) with optional follow-up coaching</p> <p>See website for all date options</p>	Online application
Communication and engagement 'Arguing with numbers'	<p>Decisions are best made when we use data to inform them. We need to be able to present data effectively. Which means we need to be good at preparing reports and good at speaking at meetings so that we can introduce and explain the data to everyone there.</p> <p>These skills - the ability to present numbers on paper and in person - are in short supply. There's more to presenting data than just presenting.</p>	Analysts who work in health and care in the Midlands	<p>Online</p> <p>1 day (09:30-16:00)</p> <p>New dates TBC</p>	Online application

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Go to Contents page	<p>'Arguing with Numbers' is a one-day course that teaches these skills.</p> <p>Your trainer: Neil Pettinger (Kurtosis)</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Data visualisation</p> <p>Go to Contents page</p>	<p>The aim of this workshop is to share and discuss the key principles of effective data visualisation and to inspire you to tell better stories with your data. Creating effective data visualisations is no longer a task for highly technical specialists and design professionals. In the modern workplace, we are all responsible for the data that we produce and learning how to effectively communicate with this data can be an invaluable asset.</p> <p><i>"Your Data Viz session today was superb and backed up by lots of valuable theory and practice. I really liked the term 'computationally kind'. Recent participant"</i></p> <p>Learning the fundamental principles behind good data visualisation can:</p> <ul style="list-style-type: none"> • Simplify • Engage • Influence <p>Your trainer: Dan Isaac</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Anyone who works in health and care in the Midlands and who works with data as part of their role	<p>Online</p> <p>1 day (09:30-16:00)</p> <p>24/11/22</p>	Online application
Moving beyond the numbers				
<p>New: Google is goodish</p> <p>Go to Contents page</p>	<p>This training will give you the confidence to distinguish between different sources to support evidence-based decision-making</p> <p>This short session will provide an overview on why Google may not always be the best place to search for evidence, covering:</p> <ul style="list-style-type: none"> • Common myths about google • How search results are organised and presented (bias and search bubbles) • AstroTurf • Fake websites • Is it fact or opinion? • Problems with Google Scholar • Tips for searching Google (when you really must) 	Anyone working in health and care organisations	<p>Online</p> <p>1 hour</p> <p>New dates TBC</p>	Online application

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<ul style="list-style-type: none"> How to evaluate web pages <p>This session will NOT teach you how to search Google effectively.</p> <p>Learning outcomes</p> <p>By the end of this session, you will be able to:</p> <ul style="list-style-type: none"> Explain some of the problems with using Google to conduct an evidence search. Recognise fake websites and how to evaluate web pages in general. Understand that not all websites are created equal Recognise some of the issues that can arise when using Google Scholar rather than searching bibliographic databases Have more confidence in using reliable information online <p>Your trainer: <u>Patricia Lacey</u> (Senior Consultant, Strategy Unit)</p> <p>Patricia has worked within the health sector for 15 years as a qualified librarian and evidence specialist. As part of this role Patricia has been responsible for developing and delivering information skills training to the health care workforce.</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>New: Fake news</p> <p>Go to Contents page</p>	<p>Ever wondered what is meant by Fake news? What is it? Where does it come from? How do I recognise it? If so, then this short session is for you.</p> <p>This training will give you the confidence to recognise 'Fake news' to support evidence-based decision-making</p> <p>We will cover:</p> <ul style="list-style-type: none"> What do we mean by fake news? What are the types Why do we believe Who (where does it come from) Fact or opinion Why should we take this seriously? Tips for fact checking How to fact check (resources) Addressing a myth and having a conversation Some practical examples on fact checking Some reputable sources to use 	<p>Anyone working in health and care organisations</p>	<p>Online 1 hour Dates TBC</p>	<p>Online application</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<p>Learning outcomes:</p> <p>Upon successful completion of this session, participants will be able to:</p> <ul style="list-style-type: none"> • Understand the difference between mis and dis information • Understand that there are different types of fake news and who is producing it. • Understand why we believe fake news • Have greater confidence in fact-checking resources. • Have greater confidence in addressing myths in conversation. <p>Your trainer: <u>Patricia Lacey</u> (Senior Consultant, Strategy Unit)</p> <p>Patricia has worked within the health sector for 15 years as a qualified librarian and evidence specialist. As part of this role Patricia has been responsible for developing and delivering information skills training to the health care workforce.</p> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			