

Midlands Decision Support Network Training & Development Prospectus 2023/24

Contact:

Rachel Caswell rachel.caswell@nhs.net

Mohammed A Mohammed m.mohammed2@nhs.net

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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



Improving strategic decision-making in Integrated Care Systems (ICSs) across the Midlands

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. The programme aims to support the development of each of the ICB’s intelligence functions alongside a wider cohort of analysts, researchers and decision-makers 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 and aligns with many of the recommendations of the [Goldacre review](#).

This Prospectus covers both 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

Who is it for?

This 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. A small number of online courses are also available to non-Midlands people.

How do you access the training?

If we are actively recruiting to a course, then there will be a registration link on the relevant course’s webpage. [Most live courses will be available to access via the Midlands Decision Support website](#). For some courses, such as Leadership Development for Analysts, the participant selection process can involve the MDSN Intelligence Function Leads and / or the Chief Analysts in each system. For details of your local Intelligence Function Lead / Chief Analyst, 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.

Updates

This Prospectus is 'live' and is updated regularly throughout the year. Any significant changes, such as the introduction of a new longer course, will be shared directly with MDSN Intelligence Function Leads / Chief Analysts 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)

 <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>Strengthening analytical capability</p> <p><i>building technical skills to undertake high-quality strategic analysis</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>
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 <p>Improving strategic decision-making in Integrated Care Systems (ICSs) across the Midlands</p>
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Improving decision-making practice				
<p>Decision Quality for Leaders</p> <p>Go to Contents</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 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>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>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</p> <p>Dates: 26/06/23 & 04/07/23</p> <p>Venue: <i>The Studio Birmingham</i></p>	<p>Contact Rachel Caswell if you would like to find out more</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
<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– 1-day workshop</p> <p>Go to Contents</p>	<p>Decision making is often challenging. So how can we know if we have made a high-quality decision? This course will define the six characteristics of decision quality and how they can be measured and used to enhance decision quality in practice.</p> <p>Your trainer: Fraser Battye (Principal Consultant, Strategy Unit)</p> <p>For more information see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>Anyone working in health and care in the Midlands who wants to improve decision quality</p>	<p>Face to Face The Studio, Birmingham</p> <p>1 day (9:30-16:00)</p> <p>Dates: 10/10/23 14/12/23 06/03/24</p>	<p>Online application</p>
<p>Thinking Tools – 1-day workshop</p> <p>Go to Contents</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>Anyone working in health and care in the Midlands who aspires to be a more independent and analytical thinker</p>	<p>Face to Face The Studio, Birmingham</p> <p>1 day (9:30-16:00)</p> <p>Dates 20/07/23 25/10/23 16/01/24</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>Economics for non-economists - 1-day workshop</p> <p>Go to Contents</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*. * lunch is included...</p> <p>Your training will be led by: Fraser Battye (Principal Consultant, Strategy Unit)</p> <p>For more information see the training webpage or 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</p> <p>The Studio, Birmingham</p> <p>1 day (9:30-16:00)</p> <p>Dates</p> <p>18/09/23 15/11/23 20/02/24</p>	<p>Online application</p>

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<p>Relational dynamics of decision-making</p> <p>Go to Contents</p>	<p>Working with the underlying dynamics of partnership decision making</p> <p>This is a 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> <ul style="list-style-type: none"> • the inputs (evidence, analysis, research, engagement) • the processes (the '3Ps' of strategy – practitioners/practice/praxis) 	<p>Aimed primarily at the board and/or executive team level of individual place-based partnerships / emerging multi-sectoral partnerships</p>	<p>Format</p> <p>1 day</p> <p>Dates arranged on an individual system basis</p>	<p>Contact David Frith if you would like to find out more</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<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 included:</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> <p>For more information contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
<p>Understanding variation</p> <p>Go to Contents</p>	<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 see the training webpage or 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 and reducing variation in health and care</p>	<p>Online 1 day (9:30-16:00)</p> <p>Dates: 24/10/23 17/01/24</p>	<p>Online application</p>
<p>Systems thinking</p> <p>Go to Contents</p>	<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 see the training webpage or 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 the insights you can get from systems' theory to lead and manage complex systems</p>	<p>Online 1 day (9:30-16:00)</p> <p>Dates: 14/09/23 05/12/23</p>	<p>Online application</p>
<p>Understanding and reporting Hospital Mortality Statistics</p> <p>Go to Contents</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 see the training webpage or 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)</p> <p>Dates: 23/11/23 06/02/24</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>Theory of Constraints for Patient Flow Course</p> <p>Go to Contents</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> <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</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)</p> <p>Dates: To follow</p>	<p>Online application</p> <p>To follow</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<p>analysis and/or performance improvement of such systems. It is also suitable for people leading operational change in such systems.</p> <p>Your Trainer: Roy Stratton (Reader in Operations and Supply Chain Management at Nottingham Business School, Nottingham Trent University)</p>			
<p>Improving and evaluating services across organisational boundaries with the Public Sector Scorecard</p> <p>Go to Contents</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 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>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)</p> <p>Dates: 07/06/23 07/09/23</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>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>			

Strengthening analytical capability

Population Health Management (PHM) for Analysts

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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.

This course is designed for analysts and those who have an interest in population health management and R.

Each session is designed to provide in-depth knowledge into one specific field related PHM.

Module No.	Session title	Date and registration link
1	Basic Introduction to PHM	11/05/23 (13.00 – 15.00)
2	Introduction to R for PHM	16/05/23 (13.00 – 15.00)
3	How systems work together	25/05/23 (13.00 – 15.00)
4	Introduction to statistics for PHM	01/06/23 (13.00 – 15.00)
5	Understanding population segmentation for your local population (Overview)	06/06/23 (13.00 – 15.00)
6	Doing population segmentation for your local population (Technical)	13/06/23 (13.00 – 15.00)
7	Understanding risk prediction and stratification for your local population (Overview)	20/06/23 (13.00 – 15.00)
8	Doing risk prediction and stratification for your local population (Technical)	27/06/23 (13.00 – 15.00)
9	Understanding impactability for your local population (Overview)	04/07/23 (13.00 – 15.00)

Analysts Health and care in the Midlands

No prior knowledge of Population Health Management and analytical sessions required, a numerical background only.

Online
11 x 2 hr sessions

Talks spaced with interactive discussion and practical activities

2 cohorts

**Cohort 1
Start Date
11/05/23**

**Cohort 2
Autumn 2023**

Registration now closed

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Course name	Course content and key learning outcomes		Audience and pre-requisites	Format and dates	How to apply																					
	10	Doing causal inference for impactability assessments for your local population (Technical)	11/07/23 (13.00 – 15.00)																							
	11	Closing the PHM cycle: An introduction to Evaluation	18/07/23 (13.00 – 15.00)																							
	Your training will be led by: David Sgorbati (Chief Analyst, Health Economics Unit)																									
Population Health Management (PHM) for Everyone Go to Contents	<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 designed for all those who have an interest in population health management.</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>Date and time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Basic Introduction to PHM</td> <td>11/05/23 (13.00 – 15.00)</td> </tr> <tr> <td>2</td> <td>How systems work together</td> <td>25/05/23 (13.00 – 15.00)</td> </tr> <tr> <td>3</td> <td>Understanding population segmentation for your local population (Overview)</td> <td>06/06/23 (13.00 – 15.00)</td> </tr> <tr> <td>4</td> <td>Understanding risk prediction and stratification for your local population (Overview)</td> <td>20/06/23 (13.00 – 15.00)</td> </tr> <tr> <td>5</td> <td>Understanding impactability for your local population (Overview)</td> <td>04/07/23 (13.00 – 15.00)</td> </tr> <tr> <td>6</td> <td>Closing the PHM cycle: An introduction to Evaluation</td> <td>18/07/23 (13.00 – 15.00)</td> </tr> </tbody> </table>		Module No.	Session title	Date and time	1	Basic Introduction to PHM	11/05/23 (13.00 – 15.00)	2	How systems work together	25/05/23 (13.00 – 15.00)	3	Understanding population segmentation for your local population (Overview)	06/06/23 (13.00 – 15.00)	4	Understanding risk prediction and stratification for your local population (Overview)	20/06/23 (13.00 – 15.00)	5	Understanding impactability for your local population (Overview)	04/07/23 (13.00 – 15.00)	6	Closing the PHM cycle: An introduction to Evaluation	18/07/23 (13.00 – 15.00)	<p>Anyone working in health and care</p> <p>No prior knowledge of Population Health Management required.</p>	<p>Online</p> <p>6 x 2 hr sessions</p> <p>Talks spaced with interactive discussion and practical activities</p> <p>2 cohorts</p> <p>Cohort 1 Start Date 11/05/23</p> <p>Cohort 2 Autumn 2023</p>	Registration now closed
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6	Closing the PHM cycle: An introduction to Evaluation	18/07/23 (13.00 – 15.00)																								
	Your training will be led by: David Sgorbati (Chief Analyst, Health Economics Unit)																									
	For more information see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)																									

Training & Development Prospectus 2023/24

Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply															
<p>Health Economics and Evaluation</p> <p>Go to Contents</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>Date and time</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Inequality in Health and Health Care</td> <td>30/05/23 (13:00 – 15:00)</td> </tr> <tr> <td>2 & 3</td> <td>An Introduction to Health Economics and Economic Evaluation in Health Care</td> <td>15/06/23 (13:00 – 15:00) 22/06/23 (13:00 – 15:00)</td> </tr> <tr> <td>4</td> <td>Critical appraisal of Published Economic Evaluations</td> <td>29/06/23 (13:00 – 15:00)</td> </tr> <tr> <td>5</td> <td>Decision modelling for health economic evaluation</td> <td>06/07/23 (13:00 – 15:00)</td> </tr> </tbody> </table> <p>Your training will be led by: Lisa Cummins and Anna Buylova (Health Economics Unit)</p> <p>For more information see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Module No.	Session title	Date and time	1	Inequality in Health and Health Care	30/05/23 (13:00 – 15:00)	2 & 3	An Introduction to Health Economics and Economic Evaluation in Health Care	15/06/23 (13:00 – 15:00) 22/06/23 (13:00 – 15:00)	4	Critical appraisal of Published Economic Evaluations	29/06/23 (13:00 – 15:00)	5	Decision modelling for health economic evaluation	06/07/23 (13:00 – 15:00)	<p>Analysts and non-technical audience in health and care</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>2 cohorts</p> <p>Cohort 1 Start Date 30/05/23</p> <p>Cohort 2 Autumn 2023</p>	<p>Online registration</p>
Module No.	Session title	Date and time																	
1	Inequality in Health and Health Care	30/05/23 (13:00 – 15:00)																	
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5	Decision modelling for health economic evaluation	06/07/23 (13:00 – 15:00)																	
<p>Introduction to Machine Learning</p> <p>Go to Contents</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 be familiar with the</p>	<p>Online</p> <p>8 ½ days (09:30-13.00)</p> <p>Dates:</p> <p>08/09/23 5/09/23 22/09/23</p>	<p>Online registration</p> <p>To follow</p>															

Training & Development Prospectus 2023/24

Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<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>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>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>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>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>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 see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>“pipe” operator, the use of dplyr verbs and experience with ggplot2.</p>	<p>09/10/23 16/10/23 27/10/23 03/11/23 13/11/23</p>	

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
<p>Fundamentals of Data Science for Health and Care in R</p> <p>Go to Contents</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 see the training webpage or 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 8 ½ days (09:30-13.00)</p> <p>Dates: 17/04/23 28/04/23 05/05/23 19/05/23 22/05/23 05/06/23 12/06/23 19/06/23</p>	<p>Registration now closed</p>
<p>Introduction to R and R Studio</p>	<p>Summary of the course</p> <p>Based on the hugely popular Introduction to R and R Studio course run by NHS-R Community volunteers, the one day course has been extended into 3 half days and covers the principles of data manipulation.</p>	<p>Analysts and anyone interested in learning about R</p>	<p>Online 1 day</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
Go to Contents	<p>The concepts covered in the course, and even some function names, will be familiar to those who use SQL and this course is aimed at those who have not used R/RStudio before or used only very little of it (perhaps running other people's work for example).</p> <p>As we work through the course we will be using and exploring Quarto to see how reports that mix text and code can be produced in R as well as be used as a way of managing analysis workflow.</p> <p>Learning outcomes:</p> <ul style="list-style-type: none"> To introduce RStudio as an IDE (integrated development environment) Introduce familiar concepts of data manipulation but using R Practice these concepts and bring them together in a Quarto report <p>The course will be run through Posit Cloud but if you would like to use your own computer please ensure that you have the latest R and R Studio installed. No previous knowledge of R is expected.</p> <p>Your Trainer: Zoë Turner, Senior Data Scientist, The Strategy Unit</p> <p>For more information see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<p>in health and care in the Midlands</p> <p>Moderate computer literacy</p>	<p>(3 x ½ days, 09:30-13:00)</p> <p>Dates</p> <p>July 2023</p> <p>19/07/23 20/07/23 21/07/23</p> <p>September 2023</p> <p>12/09/23 13/09/23 14/09/23</p>	
<p>Time series forecasting and decision-making using R</p> <p>Go to Contents</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 	<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>	<p>Online 3 days (10:00-16:00)</p> <p>Cohort 1</p> <p>June 2023:</p> <p>28/06/23 29/06/23 30/06/23</p> <p>Cohort 2</p> <p>Sep/Oct 2023:</p> <p>28/09/23 04/10/23 05/10/23</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
	<ul style="list-style-type: none"> ○ 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? • 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 see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Measuring health inequalities and health equity</p> <p>Go to Contents</p>	<p>This workshop will provide analysts with knowledge of health inequalities and health equity, and the knowledge and skills to undertake robust analysis on person-level datasets to understand where there are disparities in population health outcomes and local service delivery.</p> <p>There will be a specific focus on using data to look at ethnic and socio-economic disparities, and how to present data so it becomes information for action.</p> <p>Programme:</p> <ol style="list-style-type: none"> 1. Setting the scene 2. Analysis and methods to understand disparities and inequity 3. Equalities data in NHS and local authority datasets and denominators 4. Opportunities to bring together local authority and NHS data to measure inequalities 5. Bringing it all together and turning it into information for action <p>Your trainer: Dr Sarah Dougan, Independent Consultant in Population Health & Inequalities</p>	<p>Analysts in Health and care in the Midlands</p>	<p>Online 1 day</p> <p>Dates: TBC</p>	<p>Online application</p> <p>To follow</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
Developing analytical leaders				
<p>Leadership Development for Analysts</p> <p>Go to Contents</p>	<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. • The 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 see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	<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>	<p>Online 4 days (09:30-16:15) Cohort 1: Dates: TBC</p>	<p>Online application To follow</p>
<p>Communication skills</p> <p>Go to Contents</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>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>	<p>Online Three separate half-day modules Register for 1, 2 or all 3 modules) Dates: Module 1: 19/09/23 Module 2: 17/10/23 Module 3: 14/11/23</p>	<p>Contact Rachel Caswell if you would like to find out more</p>

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Course name	Course content and key learning outcomes	Audience and pre-requisites	Format and dates	How to apply
	<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 see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>			
<p>Communication and engagement ‘Arguing with numbers’</p> <p>Go to Contents</p>	<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> <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 see the training webpage or contact the Training & Development Operational Lead, Rachel Caswell (rachel.caswell@nhs.net)</p>	Analysts who work in health and care in the Midlands	<p>Online 1 day (09:30-16:00)</p> <p>Dates: 04/07/23 10/10/23</p>	Online application
<p>Data visualisation</p> <p>Go to Contents</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 see the training webpage or 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 1 day (09:30-16:00)</p> <p>Dates: 22/06/23 20/09/23</p>	Online application

MDSN Training Dates Summary 2023/24

Month	Course name	Date starts
Jun-23	Improving and evaluating services across organisational boundaries	07/06/2023
	Data Visualisation	22/06/2023
	Decision Quality for Leaders	26/06/2023
	Time series forecasting and decision-making using R	28/06/2023
Jul-23	Arguing with Numbers	04/07/2023
	Introduction to R and R Studio	19/07/2023
	Thinking tools for decision making	20/07/2023
Sep-23	Improving and evaluating services across organisational boundaries	07/09/2023
	Introduction to Machine Learning	08/09/2023
	Introduction to R and R Studio	12/09/2023
	Systems thinking	14/09/2023
	Economics for non-economists	18/09/2023
	Communication Skills	19/09/2023
	Data Visualisation	20/09/2023
	Measuring health inequalities and health equity (date tbc)	21/09/2023
	Time series forecasting and decision-making using R	28/09/2023
Oct-23	Arguing with Numbers	10/10/2023
	Introduction to Decision Quality	10/10/2023
	Understanding variation	24/10/2023
	Thinking tools for decision making	25/10/2023
Nov-23	Measuring health inequalities and health equity (date tbc)	09/11/2023
	Economics for non-economists	15/11/2023
	Understanding and reporting Hospital Mortality Statistics	23/11/2023
Dec-23	Systems thinking	05/12/2023
	Introduction to Decision Quality	14/12/2023
Jan-24	Thinking tools for decision making	16/01/2024
	Understanding variation	17/01/2024
Feb-24	Understanding and reporting Hospital Mortality Statistics	06/02/2024
	Economics for non-economists	20/02/2024
Mar-24	Introduction to Decision Quality	06/03/2024