



# Midlands Decision Support Network Training & Development Prospectus

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## Introduction

*"I've been given expert-level tours in the milieu of analytical Leadership, the result of which has widened my horizons. Whilst I now feel much smaller in the greater scale of things, I'm much better prepared to continue my development journey."* Participant from the Leadership Development for Analysts programme, 2021

We have designed a Training & Development programme which aims to support the development of each of the decision support units alongside a wider cohort of analysts, researchers and decision-makers in the Midlands by developing specialist skills in analysis, evidence review, evaluation and decision-making - advancing the skills and confidence of analysts and leaders by providing a range of tailored courses which cover analytical methods, leadership skills and decision quality.

This Prospectus covers a range of long and shorter courses and the training is grouped under these themes:

- Developing technical skills
- Advancing leadership and decision quality
- Evidence and evaluation
- Softer skills

### Who is it for?

The Prospectus covers training that is available to people who work within Integrated Care Systems in the Midlands. 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 website.](#)

For longer courses, such as the Leadership Development for Analysts, the participant selection process often involves the Decision Support Network Operational Leads and / or the Analytical Leads in each of the different ICSSs.

### Cost

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

### Updates

This Prospectus is 'live' and will be updated regularly and any significant changes, such as the introduction of a new longer course, and will be shared directly with DSN Operational Leads / Analytical 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.](#)

## Midlands Decision Support Network

### Training & Development Prospectus 2021/22 - Summary

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
<b>Developing technical skills</b>							
Long	T&D 1	<b>System Dynamics</b>	<p>Systems Dynamics (SD) is a powerful technique that can be used to support decision makers in how to re-design services to meet demand, reduce waste and maintain quality and safety.</p> <p>A blend of classroom and <i>virtual</i>* teaching, ongoing coaching and peer to peer support in order to build a range of technical and social competencies in analysts, as well as strengthen connections between analysts and decision makers in systems.</p> <p><b>Your trainers are:</b></p> <ul style="list-style-type: none"> <li>• Kim Warren</li> <li>• Mike Woodall</li> </ul> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>	Analysts in Integrated Care Systems in the Midlands	2	10+ sessions over a 12-month period Online	Course completed
Long	T&D 2	<b>Evaluating complex interventions</b>	<p>This a course on quasi-experimental design will support NHS analysts in learning econometric techniques to allow them to evaluate healthcare interventions and conduct statistical analysis.</p> <p>This course provides an overview of quasi-experimental methods and supports transferring obtained knowledge into the real NHS data.</p>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>Good knowledge of R</p>	2	6 days over 6 months Online	Course in progress

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p><b>Your trainers are:</b></p> <ul style="list-style-type: none"> <li>Anastasiia Zharinova</li> <li>Bruno Petrunaro</li> <li>Paul Seamer</li> <li>Mike Woodall</li> <li>Steven Wyatt</li> </ul> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>				
Long	T&D 3	<b>Population Health Management – practical application (Cohort 1)</b>	<p>This free, online, 4-day course will deliver bespoke teaching on the practical application of population health management (PHM) tools and the underlying analytical principles of PHM. During the course, participants will use a real-world dataset with prepared practice problems with full detailed explanations of the process using R software.</p> <p>This course will provide analysts with clear examples of how to perform PHM analytics in practical terms and will make sure that participants know how to translate the skills to the datasets they have access to in their everyday roles. Additionally, this course will ensure that participants understand the underlying principles of PHM so that they can accurately and efficiently apply the skills in an independent manner following completion of the course.</p> <p>The Health Economics Unit will deliver this course which aims to provide analysts with the necessary knowledge and skills to support population health management approaches with their ICS and will cover.</p> <ul style="list-style-type: none"> <li>Segmentation</li> <li>Risk stratification</li> <li>Impactability using causal inference</li> </ul>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>Good knowledge of R and regression and probability theory</p>	2	4 days over consecutive weeks Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p><b>Pre-requisites:</b> To get the most of this course you need to be able to use R - you need to be familiar with the following (The current 'Introduction to R' course covers elements 1-4):</p> <ol style="list-style-type: none"> <li>1. Uploading libraries.</li> <li>2. Calling functions from base R and libraries.</li> <li>3. Uploading data to R and understand data types</li> <li>4. Manipulating data frames, for example, transform columns, create new columns from existing ones, reshape data frames.</li> <li>5. Understanding, through R or Excel, the use of 'if' and 'if else'.</li> </ol> <p><b>Your trainers are</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Bruno Petrunaro</a></li> <li>• <a href="#">Heather Humphreys</a></li> </ul> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, <a href="#">Rachel Caswell</a></p>				
Long	T&D 4	<b>Population Health Management – practical application (Cohort 2)</b>	<p>This free, online, 4-day course will deliver bespoke teaching on the practical application of population health management (PHM) tools and the underlying analytical principles of PHM. During the course, participants will use a real-world dataset with prepared practice problems with full detailed explanations of the process using R software.</p> <p>This course will provide analysts with clear examples of how to perform PHM analytics in practical terms and will make sure that participants know how to translate the skills to the datasets they have access to in their everyday roles. Additionally, this course will ensure that participants understand the underlying principles of PHM so that they can accurately and efficiently apply the skills in an independent manner following completion of the course.</p> <p>The Health Economics Unit will deliver this course which aims to provide analysts with the necessary knowledge and skills to</p>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>Good knowledge of R (see course summary for details) and regression and probability theory</p>	2	<p>4 days over consecutive weeks</p> <p>Course being reviewed</p> <p>Online</p>	Applications closed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p>support population health management approaches with their ICS and will cover.</p> <ul style="list-style-type: none"> <li>• Segmentation</li> <li>• Risk stratification</li> <li>• Impactability using causal inference</li> </ul> <p><b>Pre-requisites:</b> To get the most of this course you need to be able to use R - you need to be familiar with the following (The current 'Introduction to R' course covers elements 1-4):</p> <ol style="list-style-type: none"> <li>6. Uploading libraries.</li> <li>7. Calling functions from base R and libraries.</li> <li>8. Uploading data to R and understand data types</li> <li>9. Manipulating data frames, for example, transform columns, create new columns from existing ones, reshape data frames.</li> <li>10. Understanding, through R or Excel, the use of 'if' and 'if else'.</li> </ol> <p><b>Your trainers are</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Bruno Petrunaro</a></li> <li>• <a href="#">Heather Humphreys</a></li> </ul> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, <a href="#">Rachel Caswell</a></p>				
Long	T&D 5	<b>Introduction - Healthcare Management Science &amp; Operations Research</b>	<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> <ul style="list-style-type: none"> <li>• <b>Lectures</b> by instructor to describe and review concepts and techniques and their applications in the health industry.</li> <li>• <b>Discussions</b> to critique the concepts and techniques.</li> <li>• <b>Practical training</b> in the use of MS Excel templates and computer simulation software to analyse problems and</li> </ul>	This course will be particularly useful for analysts who work in health and care settings, especially those who are based in hospitals and / or	2	<p>12 * 2.5 hour sessions</p> <p>Starts 07/03/22</p> <p>Online</p>	Course in progress

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p>develop solutions using various Operations Management techniques.</p> <p><b>What you will learn?</b></p> <ul style="list-style-type: none"> <li>• identify the role of Management science and Operations research methodology in organizational decision-making, strategic planning and control.</li> <li>• develop proficiency in selecting and applying various quantitative techniques which could be useful in application to various health care services and providers.</li> <li>• review and critique the strengths and weaknesses of the above techniques in relation to their applications in the health care settings.</li> <li>• identify health services problems or problem types amenable to various quantitative techniques.</li> </ul> <p><b>Your trainer – Alex Kolker</b></p> <p>The tutor for this course is Alex Kolker. Alex is a recognized expert in the area of hospital operations management, capacity planning, patient flow, forecasting, staffing optimization, and data analytics.</p>	<p>provide analytical support to hospitals.</p> <p><b>Pre-requisites:</b></p> <p>Preliminary knowledge of MS Excel including Add-in is needed.</p> <p>ProcessModel discrete event simulation software will be made available – no prior knowledge of ProcessModel is expected.</p>			
Long	T&D 6	<b>Operational Research Communities of Practice</b>	<p>Developing a community of practice on operational research – We are seeking to better understand how people currently address operational planning challenges, with the intention of establishing a community of practice across the Midlands. This community of practice is aimed at operational managers, analysts and clinicians who are currently working on demand and capacity planning</p> <p><b>Leads:</b></p> <p><a href="#">Lucy Hawkins</a> - Senior Consultant, Strategy Unit</p> <p><a href="#">Stacey Croft</a> – Analytics Manager, Strategy Unit</p>	Operational managers, analysts and clinicians who are currently working on demand and capacity planning in Integrated Care Systems in the Midlands	TBC	TBC	Details to follow

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			For more information about this please contact Lucy Hawkins - <a href="mailto:lucy.hawkins4@nhs.net">lucy.hawkins4@nhs.net</a>				
Long	T&D 7	Machine Learning	<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 use 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><b>Learning outcomes</b></p> <ul style="list-style-type: none"> <li>To understand concepts of machine learning for healthcare and compare and test a range of techniques.</li> <li>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.</li> </ul> <p><b>The programme</b></p> <p><b>Day 1: Introduction:</b> 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.</p> <p><b>Day 2: Data Preparation and Feature Engineering:</b> 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><b>Day 3: Classification:</b> Logistic Regression: why logistic regression; logistic function; simple logistic regression; multiple</p>	<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 “pipe” operator, the use of dplyr verbs and experience with ggplot2.</p>	2	4 days  Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p>logistic regression (tentative; ROC curve; feature interpretation; predictions using logistic regression.</p> <p>Decision Trees: classification using decision trees; understanding and visualising decision trees; advantages and disadvantages of decision trees; predictions.</p> <p>Random Forests: from decisions trees to random forests; training and tuning random forests; predictions.</p> <p><b>Day 4: Regression:</b> Linear and multiple regression. Linear and polynomial. Parameter estimates. Residual analysis. Metrics for model evaluation. Plots. Using decision trees and random forests for regression.</p> <p><b>Your trainers are:</b></p> <p><b>Filippo Cavallari:</b> Data Science Lecturer, Data Science Campus, Office for National Statistics</p> <p><b>Penny Holborn:</b> Head of Faculty, Data Science Campus, Office for National Statistics</p> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, <a href="#">Rachel Caswell</a></p>				
Short	T&D 8	Introduction to R	<p>This full day session is for people who have no or very limited experience of using 'R.</p> <p>R was conceived in 1992 as a free open-source statistical programming environment, which is now widely used in industry (Google, Microsoft, Airbnb, New York Times, Lloyds of London, etc) and academia, and is now ranked amongst the most popular programming languages. There are huge benefits of R, including cutting-edge visualisation and statistical tools, and a worldwide R community, which freely shares learning and resources.</p>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>No pre-requisites</p>	5-10 (across several dates)	1 full day Online	Register of interest for new dates - closed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p>This session will help you understand what 'R' is and how you could use it within your organisation. You will get a solid overview but also some hands-on experience of writing some simple code in 'R'.</p> <p>Most of your learning will use 'tidyverse' and here are some of the elements you will cover / become familiar with:</p> <ul style="list-style-type: none"> <li>• Uploading libraries.</li> <li>• Calling functions from base R and libraries.</li> <li>• Uploading data to R and understanding data types of each column.</li> <li>• Manipulating data frames. For example, transform columns, create new columns from existing ones, reshape data frames.</li> <li>• dplyr functions, pipe operator and plotting with ggplot2</li> </ul> <p>When you have completed this course, you will be able to register for the other 'R'- related courses to develop your skills and enthusiasm further.</p> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, <a href="#">Rachel Caswell</a></p>				
Short	T&D 9	Introduction to R Shiny	<p>Shiny is an R package that makes it easy to build interactive web apps straight from R. You can host standalone apps on a webpage or embed them in R Markdown documents or build dashboards.</p> <p>This course is suitable for people who have at least an introductory level of knowledge with R, and teaches the basics of Shiny, all the way from a very simple application to using the features of Shiny like reactive expressions and dynamic user interface to produce easy to use and powerful dashboards</p> <p><b>Key learning outcomes</b></p>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>With experience of 'R'</p>	2	1 day Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<ul style="list-style-type: none"> <li>Basics of Shiny and application setup</li> <li>Learning how to control reactivity to write responsive maintainable applications</li> <li>Using dynamic user interfaces to make your application legible and easy to use</li> <li>Error handling in Shiny applications</li> <li>Layout functions to build a flexible application interface</li> </ul> <p><b>Your trainers:</b></p> <p><b>Chris Beeley:</b> Senior Data Scientist at Nottinghamshire Healthcare NHS Foundation Trust</p> <p><b>Zoe Turner:</b> Senior Information Analyst at Nottinghamshire Healthcare NHS Foundation Trust</p> <p>For more information about this course contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>				
Long	T&D 11	Time series forecasting and decision-making using R (cohort 1)	<p><b>Time-series forecasting and decision-making</b></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><b>What will you learn?</b></p> <ul style="list-style-type: none"> <li>What is forecasting?</li> <li>How the forecasting task is different from other modelling tasks?</li> <li>What is the link between forecasting and decision-making, how to identify what to forecast?</li> </ul>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>With experience of 'R'</p>	2	3 days Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p><b>Who is this training for?</b></p> <ul style="list-style-type: none"> <li>• Anyone who wants to understand               <ul style="list-style-type: none"> <li>○ the foundation of forecasting to inform decision-making process</li> <li>○ theoretical background of forecasting models and use them in R to inform decision-making processes</li> <li>○ An executive member in charge of planning and decision making who wants to use the output of forecasting process</li> <li>○ A decision maker who uses forecasting tools to empower decision making</li> <li>○ A data analyst who wants to gain in depth and comprehensive knowledge of forecasting process using R</li> <li>○ A forecaster who wants to use R to apply forecasting models</li> </ul> </li> </ul> <p><b>Would you like to know how to ...</b></p> <ul style="list-style-type: none"> <li>• Identify decisions that require forecasting and determine what to forecast?</li> <li>• Identify key features of data using time series analysis?</li> <li>• Apply simple forecasting methods?</li> <li>• Check whether a forecasting model is good?</li> <li>• Produce point forecasts and prediction intervals?</li> <li>• Compute the accuracy of forecasting methods for point and prediction intervals?</li> <li>• Visualize and report forecasts and its accuracy for interpretation and insights?</li> <li>• Understand Exponential smoothing, ARIMA and time series regression models used in forecasting?</li> <li>• Develop computer skills for forecasting time series?</li> <li>• Gain insights into the problems of implementing and operating forecasting systems?</li> </ul>				

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<ul style="list-style-type: none"> <li>Be confident at selecting and using the right forecasting model and using it to support decision-making in your team or organisation?</li> </ul> <p><b>Your trainer:</b></p> <p><b>Dr Bahman Rostami-Tabar:</b> Senior Lecturer in Management Science, Cardiff Business School, Cardiff University</p> <p>For more information about this course contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>				
Long	T&D 12	Time series forecasting and decision-making using R (cohort 2)	<p><b>Time-series forecasting and decision-making</b></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><b>What will you learn?</b></p> <ul style="list-style-type: none"> <li>What is forecasting?</li> <li>How the forecasting task is different from other modelling tasks?</li> <li>What is the link between forecasting and decision-making, how to identify what to forecast?</li> </ul> <p><b>Who is this training for?</b></p> <ul style="list-style-type: none"> <li>Anyone who wants to understand <ul style="list-style-type: none"> <li>the foundation of forecasting to inform decision-making process</li> <li>theoretical background of forecasting models and use them in R to inform decision-making processes</li> </ul> </li> </ul>	<p>Analysts in Integrated Care Systems in the Midlands</p> <p>With experience of 'R'</p>	2	3 days Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<ul style="list-style-type: none"> <li>○ An executive member in charge of planning and decision making who wants to use the output of forecasting process</li> <li>○ A decision maker who uses forecasting tools to empower decision making</li> <li>○ A data analyst who wants to gain in depth and comprehensive knowledge of forecasting process using R</li> <li>○ A forecaster who wants to use R to apply forecasting models</li> </ul> <p><b>Would you like to know how to ...</b></p> <ul style="list-style-type: none"> <li>• Identify decisions that require forecasting and determine what to forecast?</li> <li>• Identify key features of data using time series analysis?</li> <li>• Apply simple forecasting methods?</li> <li>• Check whether a forecasting model is good?</li> <li>• Produce point forecasts and prediction intervals?</li> <li>• Compute the accuracy of forecasting methods for point and prediction intervals?</li> <li>• Visualize and report forecasts and its accuracy for interpretation and insights?</li> <li>• Understand Exponential smoothing, ARIMA and time series regression models used in forecasting?</li> <li>• Develop computer skills for forecasting time series?</li> <li>• Gain insights into the problems of implementing and operating forecasting systems?</li> <li>• Be confident at selecting and using the right forecasting model and using it to support decision-making in your team or organisation?</li> </ul> <p><b>Your trainer:</b></p>				

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p><b>Dr Bahman Rostami-Tabar:</b> Senior Lecturer in Management Science, Cardiff Business School, Cardiff University</p> <p>For more information about this course contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>				
<b>Advancing Leadership and decision quality</b>							
Long	T&D 13	<b>Leadership Development for Analysts (Cohort 1)</b>	<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>	Senior analysts and analytical team leaders in Integrated Care Systems in the Midlands who want to further develop their leadership skills and knowledge	2	6 days Online	Course completed
Long	T&D 14	<b>Leadership Development for Analysts (Cohort 2)</b>	<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"> <li>- What it means to be an analytical leader, exploring different leadership styles and approaches.</li> <li>- How to lead in and with a high performing team.</li> <li>- How to create networks within organisations and systems.</li> <li>- The key components of systems, systems thinking and working in complex systems.</li> </ul>	Senior analysts and analytical team leaders in Integrated Care Systems in the Midlands who want to further develop their leadership skills and knowledge	2	4 days Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p>- The role of analysts in decision making in health and care.</p> <p>For more information about this course, please contact the course Lead: <a href="#">Lucy Hawkins</a> or the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>				
Long	T&D 15	<b>Decision Quality for System Leaders (Cohort 1)</b>	<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"> <li>• Applied – participants bring examples and decisions they face</li> <li>• Participative – expertise and experience of the room</li> <li>• Challenging – plenty of stimulation, push and pull</li> </ul> <p>By the end of the programme, participants will:</p> <ul style="list-style-type: none"> <li>• Be better decision makers and more critical, analytical thinkers;</li> <li>• Know why decision quality matters - and what to do to improve decision quality in their teams, organisations and Integrated Care Systems.</li> <li>• Have tools and methods to use in improving decision quality.</li> </ul> <p>It is free of charge to attend.</p>	<p>Current and aspirant Leaders</p> <p>Aimed at current and aspirant Leaders working in the Midlands - Directors and people in other senior positions, and people who are on the way to being so.</p> <p>Participants are welcome 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>	2/3	Face to Face	Course completed



Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p><b>Your training will be led by:</b></p> <p><a href="#">Fraser Battye</a> (Principal Consultant, Strategy Unit)</p> <p><a href="#">Find out more by watching the video of the taster session.</a></p> <p>For more information about this course, please contact <a href="#">Bethany Taylor</a> (<a href="mailto:bethany.taylor31@nhs.net">bethany.taylor31@nhs.net</a>)</p>				
Long	T&D 16	<b>Decision Quality for System Leaders (Cohort 2)</b>	<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"> <li>• Applied – participants bring examples and decisions they face</li> <li>• Participative – expertise and experience of the room</li> <li>• Challenging – plenty of stimulation, push and pull</li> </ul> <p>By the end of the programme, participants will:</p> <ul style="list-style-type: none"> <li>• Be better decision makers and more critical, analytical thinkers;</li> <li>• Know why decision quality matters - and what to do to improve decision quality in their teams, organisations and Integrated Care Systems.</li> <li>• Have tools and methods to use in improving decision quality.</li> </ul>	<p>Current and aspirant Leaders</p> <p>Aimed at current and aspirant Leaders working in the Midlands - Directors and people in other senior positions, and people who are on the way to being so. Participants are welcome from many backgrounds, including health and social care; public and voluntary sector; healthcare and public health; clinical and non-clinical; commissioners</p>	2/3	<p>2 days</p> <p>Face-to-face</p> <p>09/03/2022</p> <p>16/03/2022</p>	Course completed

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			<p>It is free of charge to attend.</p> <p><b>Your training will be led by:</b></p> <p><a href="#">Fraser Battye</a> (Principal Consultant, Strategy Unit)</p> <p><a href="#">Find out more by watching the video of the taster session.</a></p> <p>For more information about this course, please contact <a href="#">Bethany Taylor</a> (<a href="mailto:bethany.taylor31@nhs.net">bethany.taylor31@nhs.net</a>)</p>	and providers; (etc).			
Short	T&D 17	<b>Thinking tools for decision making</b>	<p>Health and care services need people who can think differently. People who can cast a different light on familiar issues and see new ways around long-standing obstacles. People with the skills to define problems and create options to address them.</p> <p>The workshop will provide you with thinking tools and concepts. You will choose what to cover from a selection including: pre-mortems; problem trees; regression to the mean; breaking the rules; thinking on the margin; Ulysses pacts; creative thinking (and many more).</p> <p>The workshop will have a practical focus. You will apply the tools and concepts 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.</p> <p><b>Your trainer:</b></p> <p><a href="#">Fraser Battye</a> (Principal Consultant, Strategy Unit)</p>	The workshop is designed for people who want to think analytically and creatively. It is especially suitable for people who lead teams and organisations, or are set to do so. This is only available to people from Integrated Care Systems in the Midlands.		One day Face to Face	Course completed

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			For more information about this course contact the Training & Development Operational Lead, Rachel Caswell ( <a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a> )				
Short	T&D 20	<b>Introduction to Decision Quality</b>	<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><b>Your trainers:</b></p> <p><a href="#">Professor Mohammed A Mohammed</a></p> <p><a href="#">Fraser Battye</a> (Principal Consultant, Strategy Unit)</p> <p>For more information about this course contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>	Anyone working in Integrated Care Systems in the Midlands who wants to improve decision quality	Unlimited	1 day Online Date TBC	
Short	T&D 22	<b>Understanding variation</b>	<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><b>Your trainer:</b></p> <p><a href="#">Professor Mohammed A Mohammed</a></p> <p>For more information about this course, please contact the course Lead: <a href="#">Professor Mohammed A Mohammed</a> (<a href="mailto:m.mohammed2@nhs.net">m.mohammed2@nhs.net</a>) or the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>	Anyone working in Integrated Care Systems in the Midlands who is interested in understanding and reducing variation in health and care	Unlimited	1 day Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
Short	T&D 23	<b>Systems thinking</b>	<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><b>Your trainer:</b> <a href="#">Professor Mohammed A Mohammed</a></p> <p>For more information about this course content the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>	Anyone working in an Integrated Care System in the Midlands who is interested in the insights you can get from systems' theory to lead and manage complex systems	Unlimited	½ day 09:30-13:00  Online	Course completed
Short	T&D 43	<b>Understanding and reporting Hospital Mortality Statistics</b>	<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><b>Your trainer:</b> <a href="#">Professor Mohammed A Mohammed</a></p> <p>For more information about this course contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>	Anyone working in Integrated Care System in the Midlands who is interested in understanding hospital mortality statistics	Unlimited	½ day 09:30-13:00  Online	Course completed
Short	T&D 44	<b>Theory of Constraints for Patient Flow</b>	<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</p>	There are no formal prerequisites although the participants will be guided to read		One day course  Available dates: 25/03/22,	<a href="#">Registration open</a>

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<p>then this program is for you. This training looks across the whole healthcare system.</p> <p><b>Outline of the content:</b></p> <ul style="list-style-type: none"> <li>• Understanding the importance of managing patient flow in improving quality of care, access to care, length of stay and financial affordability of care.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• 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.</li> <li>• Understanding the key measures in managing and improving flow and how to implement them.</li> <li>• The role of software in improving and managing patient flow.</li> </ul> <p><b>The learning outcomes:</b></p> <p>On completing the session you will be able to:</p> <ul style="list-style-type: none"> <li>• 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.</li> <li>• Implement a simple buffer management system to help improve patient flow and focus improvement efforts.</li> </ul>	<p>'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>08.06.22 and 11/10/22</p> <p>09.30 – 16.30</p> <p>Online</p>	

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<ul style="list-style-type: none"> <li>Lead a focussed process of ongoing improvement in your own healthcare system.</li> <li>Provide clinical and management leadership with the direction and insight you need to achieve a breakthrough in performance.</li> </ul> <p><b>Course description:</b></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><b>Your Trainer: Alex Knight</b></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 '<a href="#">Pride and Joy</a>' 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 about this course, please contact the Training &amp; Development Operational Lead, <a href="#">Rachel Caswell</a></p>				
<b>Evidence and evaluation</b>							
<b>Varied</b>		<b>Selection of courses</b>	<b>To follow</b>				
<b>Softer skills</b>							
<b>Long</b>	<b>T&amp;D 37</b>	<b>Communication skills</b>	This training programme will enhance attendees' confidence in communicating with non-technical audiences. The aim is to build	Analysts and analytical leaders who work in Integrated Care	2	3 day sessions with additional coaching	<a href="#">Registration open</a>

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			<p>a community of motivated and capable analysts and analytical leaders, able to respond to their environment.</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"> <li>• Introduction to clear communications</li> <li>• Clear writing</li> <li>• Comms planning</li> <li>• Blogs and opinion pieces</li> <li>• Presenting findings</li> </ul> <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:</p> <p><a href="#">CampusPR</a></p> <p>For more information about this course, please contact the Training &amp; Development Operational Lead, <a href="#">Rachel Caswell</a></p>	Systems in the Midlands		<p>April &amp; May 2022</p> <p>Online</p>	
<b>Short</b>	T&D 38	<b>Communication and engagement 'Arguing with numbers'</b>	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	Analysts who work in Integrated Care	2	Online	Course completed

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			<p>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><a href="#">‘Arguing with Numbers’</a> is a one-day course that teaches these skills.</p> <p><b>Your trainer:</b></p> <p><a href="#">Neil Pettinger (Kurtosis)</a></p> <p>For more information about this course contact the Training &amp; Development Operational Lead, Rachel Caswell (<a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a>)</p>	Systems in the Midlands			
Short	T&D 39	Data visualisation	<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"> <li>• Simplify</li> <li>• Engage</li> <li>• Influence</li> </ul> <p><b>Your trainer:</b></p>	Anyone who works in an Integrated System in the Midlands and who works with data as part of their role	2	One day  Online	Course completed

Type of course	Course ref.	Course name	Overview and key learning outcomes	Audience and pre-requisites	No. of places per ICS	Duration, start date /s, location	How to apply
			<a href="#">Dan Isaac</a>  For more information about this course contact the Training & Development Operational Lead, Rachel Caswell ( <a href="mailto:rachel.caswell@nhs.net">rachel.caswell@nhs.net</a> )				