



Staffordshire
CENTRE FOR DATA ANALYTICS

PROSPECTUS

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ABOUT US

The Staffordshire Centre for Data Analytics (SCDA) was established in 2021 as an innovative collaboration between Staffordshire Police, Keele University and Staffordshire County Council.

The Centre aims to work across organisational boundaries to deliver analytical insights and promote joint responses to common challenges, with academic contribution from Keele University adding greater depth and understanding to our shared problems.

Since its establishment the partnership has engaged with a wide range of partners who have provided data and invaluable insights into our analytical projects, seeing actionable insights benefit the broader public sector.





Image courtesy of Keele University

WHAT IS A CENTRE FOR DATA ANALYTICS?

Nesta, one of the UK's leading innovation foundations, defines a Data Institute (or Office of Data Analytics) as:

A model for multiple organisations to join up, analyse and act upon data sourced from multiple public sector bodies to improve services and make better decisions.

Ultimately, they create multi-organisational, actionable insight from otherwise siloed information.

The digital revolution has brought with it an explosion of data, and the public sector is arguably one of the largest producers of data.

Data offers us significant potential to help tackle the complex, system-wide, social challenges we are seeing locally and across the UK. More efficient sharing and utilising of our data offers the opportunity to transform outcomes and realise benefits across Staffordshire.

Whilst the public sector is a large producer of data, we are often insight poor. We collect a myriad of data across Staffordshire on a daily basis, stored in a variety of systems, with significant potential to help us to get upstream to prevent needs escalating and target resource. The ultimate aim of the SCDA is to improve outcomes and increase efficiency.

Many public sector organisations across Staffordshire recognise that there is a need to strengthen and invest in its data science and analytical capability. Investing in system-wide joint capability and capacity offers greater potential benefits and opportunities.



OUR VISION FOR STAFFORDSHIRE

VISION

We envisage a future where Staffordshire's public sector is empowered to use data to address complex challenges and create positive social impact. Our Centre will play a pivotal role in making that vision a reality.

MISSION

Our Centre will be a leading source of expertise and support for public sector data analytics, helping to drive efficiency, effectiveness, and innovation.

Through collaboration with public sector organisations, we will develop cutting-edge data analytics solutions that enable evidence-based policy-making, improved service delivery, and promote transparency and accountability.

Our work will be grounded in the principles of ethical data use and privacy. We envisage a future where Staffordshire's public sector is empowered to use data to address complex challenges and create positive social impact and our Centre will play a pivotal role in making that vision a reality.

OUR AIMS

- To provide high-quality data analysis services to support evidence-based decision-making in the public sector.
- To build a culture of data-driven decision-making and encourage the use of data analytics across all public sector organisations.
- To develop innovative solutions that use advanced analytics techniques to address complex public policy challenges.
- To establish the Centre as a recognised leader in the field of data analytics in the public sector.
- To provide training and capacity building opportunities for public sector employees to improve their data analysis skills and knowledge.

OUR OBJECTIVES

- To establish a team of experienced data analysts and data scientists with a range of skills and expertise.
- To develop partnerships with public sector organisations to identify their data analysis needs and provide tailored solutions.
- To develop a range of analytical tools and techniques that can be applied across a range of public sector domains.
- To provide regular training and workshops on data analysis and related topics for public sector employees.
- To promote the use of open data and open analytics techniques to increase transparency and accountability in the public sector.

MEET OUR SPONSORS



JOHN TRADEWELL

Director of Corporate Services
Staffordshire County Council

"Staffordshire County Council is a proud sponsor of the Staffordshire Centre for Data Analytics as we continue to work to improve outcomes by better use of our data. This is just the beginning as the Centre has the potential to transform how we use our data to tackle the intractable challenges we face. As we embark on this journey Staffordshire County Council will continue to grow and support the Centre to achieve its ambitions and deliver innovative analytics and solutions in partnership with world class academics."



**CHIEF SUPERINTENDENT
GEMMA WARD**

Staffordshire Police

"It is an exciting opportunity for the Force to be part of the Staffordshire Centre for Data Analytics initiative. We all know how important both working with our partners and exploiting data are in understanding our communities and delivering the best possible service to the public. The SCDA combines both of these crucial elements, working on some of our biggest priorities as public services to provide actionable insight that informs key decision making on early intervention, protecting vulnerable people and tackling crime."

"Our insight is enriched beyond what one organisation alone can provide and the findings are collaboratively managed, so we can jointly make a tangible difference to the people we serve. This includes identifying those most at risk or adopting approaches that are more likely to be successful, fuelled by a data-rich evidence base. The SCDA's work has influenced how we deliver our management of domestic abuse incidents and supporting those vulnerable to serious violence."

"The existing partners have also benefited in sharing approaches, skills and knowledge amongst practitioners, to build a community of practice, plus delivered on pieces that were challenging to resource or would have duplicated effort."

"We have sought the continued development of the SCDA through our current Policing Plan 2023-25 and encourage partners to become part of the journey."

"Our services and insight are richer together and can showcase innovative approaches taken in Staffordshire, especially as we move towards predictive analysis and modelling to inform strategic planning."



ANN PITTARD

Director of Engagement & Partnerships and Keele University Science & Innovation Park
Keele University

"Keele University is a founding partner in Staffordshire Centre for Data Analytics, an important vehicle for improving the lives of local communities through better use of data. Our staff have already contributed expert knowledge to the Centre's work, and are keen to expand on this through research, student projects and the development of graduate careers. We look forward to being a part of the SCDA as it continues to grow over the coming years."



THE VALUE OF DATA

The successful utilisation of data analytics in public services potentially holds tremendous benefit to inform and to transform the way we operate and reconcile increasing demand on various vital services. As the field of technologically-enabled data collection management continues to advance, appropriate information will play a pivotal role in addressing the complex challenges we are facing.

PREDICTIVE ANALYTICS

One of the most emergent technologies is that of future prediction. By harnessing the power of big data and machine learning algorithms we can anticipate and proactively address issues before they occur or escalate.

The Centre's ambition is to develop our learning and application of predictive analytics working alongside our academic partners, analysts and, where possible, graduates.

DATA-DRIVEN DECISIONS

Data analytics has the potential to inform and thus enhance our decision-making processes. Through data-driven insights, policymakers can make informed choices about budgeting, resource allocation, intervention and policy development - improving outcomes, effectiveness, and efficiency. The Centre's ambition is to put data driven decisions at the heart of public policy.

TRANSPARENCY

Data analytics can also be utilised to foster transparency and accountability in public services. By making appropriate data accessible to the public, citizens can gain insights into operations and hold services accountable for their decisions. This transparency can lead to increased trust and, subsequently, a reduced demand for oversight and investigation.

The shift of complex organisations towards evidence-based and knowledge-based decision making requires the codification of data, information and knowledge, and the ability to elicit, store and represent tacit and semi-tacit knowledge while generating insight into complex sociological phenomena. The Centre's ambition is to drive transparency where applicable.

WHAT WE WILL DO

We will continue to develop our offer and commitment to the Centre, such as Keele's University's commitment to create opportunities for academics, graduates and students to engage with place-based projects that improve the lives of people in Staffordshire. We will achieve this by working as a partnership to complete cross-organisational proof-of-concept projects in public policy and practice data analysis. These projects will contribute to the understanding of place-based population - both locally and beyond - and its implications for social responses.

OUR WORK

CASE STUDY | DOMESTIC ABUSE

The SCDA worked in collaboration with Staffordshire Police, Social Care, and commissioned providers to deliver invaluable insights to support a data informed approach to Domestic Abuse interventions and outcomes.

The Centre brought together a number of different data sets from different organisations to help identify which interventions more successfully reduced the likelihood of repeat offending and victimisation.

The work acknowledged the complexity of offending behaviour and does not set out to provide comprehensive solutions to this.

Rather, the aim was to draw some useful insight from the findings, which could be used in practical ways, as set out in the report conclusions and recommendations.

DATASETS INCLUDED

- Crime Data
- DASH records (Domestic Abuse, Stalking, Harassment and Honour-Based Violence)
- Sample MARAC records (multi-agency, risk assessment conference)
- Domestic Abuse Protection Orders and Notices
- Children's Social Care Records (Staffordshire County Council)
- Case Studies from Domestic Abuse Commissioned Providers
- Academic research review - Keele University

THE ANALYSIS OF THESE DATA SETS AIMED TO

- Inform the work of the Domestic Abuse Partnership through detailed analysis of what works and what doesn't in delivering successful outcomes
- Provide insight on what approaches were utilised in cases that have closed and in cases that are resilient and remain in the system
- Provide further understanding of what works in different scenarios, for example, victim/offender relationships, links to wider crime, and so forth

THE ANALYSIS INFORMED ACTION THAT INCLUDED

- A pilot developed by Staffordshire Police to test the use of Domestic Violence Penalty Orders (DVPOs) on a new cohort of offenders
- The findings were reviewed and fed into the new Domestic Abuse Commissioning Delivery Plan 2023/24
- The insights fed into the Domestic Abuse Service Specification - i.e. Perpetrator Programmes

CASE STUDY | COST-OF-LIVING

The cost-of-living crisis is a national issue. Latest research from the Joseph Rowntree Foundation suggests that "7.2 million [people] are going without the basics and 4.7 million are behind on their bills" (Earwalker, 2022). Over the past 18 months, local and national initiatives have been developed at pace to provide direct support to individuals. However, measures for targeting individuals are not always easy to identify and access to data is limited.

The Centre has worked in collaboration with a number of partners including Public Health, Citizens Advice, Dorset Council and a variety of different data sources to provide actionable insights to those across Staffordshire, including District and Borough colleagues to support those most vulnerable in our population.

The Centre brought together a number of different data sets from different organisations to build on existing information held by partner organisations, updating with new data sources and combining data sets in innovative ways to improve insight on individuals and families who are at risk of becoming vulnerable and might be targeted for early support.

DATASETS INCLUDED

- Demand Data from Citizens Advice
- An analysis of the impact on housing costs
- Experian Data on discretionary income
- Academic research input - Keele University

The report draws together the findings from the analysis, research and engagement, and is outlined in two reports. The first is a county-wide overview of those who are most vulnerable to the cost-of-living crisis with low or extremely low discretionary incomes. In the second report, this same analysis has been broken down by locality, covering the eight District and Boroughs of Staffordshire.

The reports show the geographical spread of those in two priority cohorts. Those with discretionary income of less than £50 per month and those with discretionary income of greater than £50 but less than £125 per month.

In addition, the SCDA has developed a dashboard using the Dorset approach which maps this data live and tracks over time the impact on those income levels, including areas such as inflation and government support payments.

INTENDED IMPACT

- Resource allocation towards the most vulnerable areas and individuals identified
- Co-ordinated effort across Staffordshire including District and Boroughs, data-led activity
- Better targeting of government support grants - i.e. Household Support Fund



OUR STAKEHOLDERS SAID

“The Centre for Data Analytics has analysed a number of different datasets to identify what can help reduce the likelihood of reoffending. The insight provided is invaluable and will enable the Domestic Abuse Commissioning and Development Board to take a data informed approach during the next 12 months to improve the delivery of successful outcomes.”

Domestic Abuse Board Chair

“The collaboration allowed Keele academic members of the team to access the results from analysis of up-to-date regional data, to help external partners to make linkages with the findings of broader research and to help frame the parameters of the data collection and analysis to best effect. All of this fed into tangible changes and improvements in policy and regional interventions.”

Keele University Lead

“The product has enabled us to understand and achieve data insight to improve outcomes in Staffordshire through building working relationships and working together with Centre Data for Analytics and Keele University.”

Staffordshire Police Lead

INFORMATION GOVERNANCE, SAFE AND ETHICAL DATA SHARING

Our success requires us to be able to share our data effectively and safely in the way we collect, store, manage, share and exploit our data as a strategic asset, enabling us to better deliver effective insight.

The partnership has built an infrastructure that enables:

- A robust approach to data management with a focus on improving data quality and accuracy
- The ability to store, manage and share partnership data lawfully, ethically and proportionally
- Our ability to manage data-related risks with the associated reputational benefits and business benefits this confers
- Measurable benefits in our shared ability to use data to enhance the collective understanding and interventions from agencies in line with each project identified; by supporting the effective development of capabilities to interrogate, analyse and report insight from our data

The SCDA has a single framework to simplify the complexities often encountered with partnership data sharing with an Information Governance Framework and Collaboration Agreement that balances the risk that information presents with the value it provides. Our framework is underpinned by ensuring that everyone will understand their responsibilities and comply with the legal responsibilities surrounding information.

Our approach is agile and evolving to ensure that all partners can inform our practices and build confidence in us working together. Each user case is unique, and any data that is shared is bespoke to ensure compliance, security and quality considerations inform the collaboration of multiple data sets, offering differing perspectives and insight into complex challenges.

The SCDA has a strong focus on data ethics which ensures we minimise discrimination and harmful consequences associated with mismanagement of data. The moral duty of the use of organisations' data is key to all stages within all our work and is specifically scoped as part of the data impact assessment undertaken for every project.

All partners remain Data Controllers for their data and maintain control over what data is shared with us, to ensure that all parties can foster trust in our approach and grow with us to leverage the benefits that exist in collaborative insight.



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