

The Essex Centre for Data Analytics
Data, AI and Digital Ethics
Committee
DRAFT REVISED Terms of Reference

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Background

1. Essex Police, Essex County Council and the University of Essex have established an Essex Centre for Data Analytics (ecda) to work together to support and deliver data analytics and data science projects for the benefit of the people of Essex. With the inclusion of new ecda members, Essex County Fire and Rescue Service, Thurrock Council and Southend Council, ecda will create data-led insights to strengthen the partners' ability to prevent harm, keep people safe, and provide the best opportunities and services for the county, its residents and business community.

The ecda mission is to be a centre of excellence for ethical data analytics, promoting the use of data sharing and data science to improve outcomes for local people and enabling all partners to deliver equally and effectively. It does this by leading three missions.

- **Supporting data sharing** with our partners in safe, secure and ethical way, breaking down barriers to ensure data is shared as a culture norm and not an exception.
- **Building capability** and capacity, by connecting people together, sharing skills, knowledge and expertise to implement best practice and robust methods for delivery of advanced analytics and data science.
- **Fostering a data culture** that enables partners to treat data as an asset, prioritising the data literacy learning agenda and creating a positive data ecosystem to support effective evidence-based decision making.

During 2025 and 2026 ecda will seek to:

- **Build on the basics** and continue to break down barriers including building a data governance community to develop a must share model, developing an Essex Minimum linked data set with our districts and developing synthetic datasets to support research.
 - **Grow maturity** across the whole Essex system by providing consultancy advice on data strategy, developing a secondment programme for shared roles, utilising capacity from our partners such as BT to facilitate hackathons to tackle shared problems and setting up a data engineer community.
 - **Lead the way** with responsible AI innovation, developing an AI literacy learning agenda and AI ready data to supercharge data and analytics concepts and develop responsible and ethical practices and guidance for AI deployment working alongside the National Police Chiefs' Council.
2. The use of data in public services may give rise to ethical questions and considerations. The Data, AI and Digital Ethics committee (DAIDEC) will provide independent advice to ecda regarding ethical issues arising from ecda's work.

Roles and responsibilities

Advising on ethics

3. The DAIDEC is a solely advisory committee, responsible for providing ecda with advice on any ethical considerations or issues arising in the Centre's data, AI and digital projects. In addition, the DAIDEC will suggest any action or omission they consider appropriate with regard to the ethics issues identified. In doing so, the DAIDEC will follow the process, and the principles contained within these Terms of Reference. (See Advice Process for more details) In addition the DAIDEC and its members must have regard to, and comply with, the code of ethics relating to each of the core sponsor organisations (Essex Police, Essex County Council, and the University of Essex – details of which can be found on the web sites for each organisation).

Advising ecda

4. The DAIDEC will provide advice to ecda on proposed digital, AI and/or data project. However, engagement on sensitive projects, for example those concerning national security, will be considered on a case-by-case basis and any decision not to refer to the DAIDEC must be unanimously agreed by all six core partners subject to the duty of the police to comply with Article 2 ECHR and/or to prevent harm in the context of which the police must be able to exercise their discretion. Every effort will be made to seek advice from the Chair and Vice Chair of the DAIDEC.

DAIDEC Advice & the law

5. It is not the DAIDEC's role to provide legal advice and the process in these Terms of Reference assumes that legal counsel will be independently sought by ecda as appropriate. Ecda will be responsible for internal confidentiality management, data protection and information management governance and processes including;

- a. The appointment of someone to act as the Data Protection Officer
- b. Seeking independent specialist legal or data protection advice
- c. Conducting its own data protection impact statements and assessments on proposed projects before such projects are considered by the DAIDEC.
- d. There will be a clear statement with any project proposals put before the DAIDEC making it clear that ecda has received advice that the proposal is legally compliant.
- e. It will be ecda's responsibility to ensure activities comply with any other regulator and/or UK government body inspection regime (whether relating to investigatory powers or otherwise). The ecda partners are all required to answer any regulatory query in relation to the DAIDEC, in accordance with their legal duties. The DAIDEC will, of course, consider relevant legal issues, where identified, as part of its analysis of the ethics issues being considered.

6. The opinions of the committee are advisory and have no legal status, therefore legal or other liability does not apply to members or the advice given. Members will be expected to use all reasonable endeavours to provide advice to the best of their ability and with reasonable care, skill and diligence.

7. Members will be under a strict obligation to maintain the confidentiality of matters discussed that are deliberately not disclosed as part of the DAIDEC records, but non-attributed minutes may,

subject to applicable law and applicable legal procedures, be disclosed in legal proceedings or regulatory action involving ecda or the ecda core partners.

8. The DAIDEC will act independently and free of bias, including political bias.

Membership of the DAIDEC

Members' skills

9. The DAIDEC will seek to attract members with relevant skills, knowledge and experience as well as lay members. The sort of skills that are considered to be relevant are:

Data Science

Human rights knowledge/experience

Civil/public service policy

Police or public service ethics/data ethics/moral philosophy

Social Policy

Information Technology

Change/Organisational Development

Artificial Intelligence

Information Governance

Sociology/philosophy/social sciences

Research and academic experience

Membership will also include:

Lay members - residents of Essex, who need not have any specific qualifications or areas of expertise. These members will bring value to the work of the DAIDEC as residents of the county and will especially assist in identifying any issues of discrimination, privacy and other ethical issues to the group from a lay perspective. The DAIDEC will actively seek a diverse membership.

A project lead from the ecda partner, or partners as appropriate in each case, will inform and brief the DAIDEC on ecda's interest in a project under consideration. They will advise on operational matters, organisational priorities or other relevant matters such as threat, harm, risk and the rationale for proposing certain questions or projects for ecda and its partners.

In the case that the head of ecda or the relevant project manager also attends the meeting, they will not take a substantive part in discussions, and they will not interfere with the DAIDEC's independence.

Secretariat support will be provided by a member of the ecda team.

In addition, the Chair and vice chair may invite other relevant experts, (e.g. the Information Commissioners Office) to attend meetings of the DAIDEC on an ad-hoc basis if they feel that their

views and advice would be of benefit. Chairs and/or ecda may propose observers subject to approval by each other.

Period of membership

10. Members will be appointed for three years. Members who have served a three-year term may serve for a second three- year term by mutual agreement. Individuals will not serve more than three terms of three years, although ecda reserves the right to extend the term of individual members for a limited period when needed to ensure continuity and to provide support to new members. For example, allowing a period for an outgoing Chair to guide new members through the DAIDEC's processes.

11. The senior representatives of ecda and its partners may change more frequently due to the typical length of time served in any one position by senior officers or appointees.

Appointing the Chair and Vice Chair

12. The Chair and Vice Chair of the DAIDEC shall be appointed on behalf of the ecda Sponsors Board, the appointments being agreed by all six core ecda partners. The Chair and Vice Chair may not in any way involved in the day-to-day work of ecda in order to preserve the independence of the DAIDEC. The Chair and Vice Chair shall be able to invite other relevant experts to meetings to advise the members, provided any invitees agree to maintain the confidentiality of matters discussed, and operate according to these terms of reference.

Members' Appointment

13. The core ecda partners (Essex Police, Essex County Council, the University of Essex, Southend Council, Thurrock Council and Essex County Fire and Rescue Service) will collectively and unanimously approve DAIDEC appointments on behalf of the ecda Sponsors Board.

14. Members may be directly approached and appointed based on their having appropriate experience, subject to an application and interview process. All ecda DAIDEC appointments and opportunities will be published in such a way as to ensure that the opportunity is canvassed across the county through local and community groups.

15. While at all times complying with equality laws of England and Wales, ecda will use all reasonable endeavours to appoint DAIDEC members that are, so far as is possible, representative of the diverse communities of Essex. Ecda's commitment to promote diversity on the DAIDEC will be consistent with the public sector duty under the Equality Act 2010 (the "Act") to "encourage people with protected characteristics to participate in public life..." and provisions under the Act regarding positive action".

16. All applicants for membership will need to disclose any conflicts of interest before being appointed, and after their appointment, and to disclose any conflicts at the time they arise where applicable. Upon joining the DAIDEC, a member must absolve themselves from participating in the discussions of the DAIDEC where they have a conflict of interest.

17. Ecda reserves the right to remove members by agreement if, acting reasonably, they deem such a removal to be in the public interest. Any such removal will be justified in writing to the individual, to help ensure there is transparency and integrity in the decision. Ecda may agree any such additional rules or codes of conduct from time to time governing the conduct and removal of DAIDEC members.

Benefits of membership

18. Membership of the DAIDEC will not be remunerated.

19. Reasonable and necessary expenses will be reimbursed. When deciding what is reasonable, ecda will give due consideration to the personal circumstances of the applicable member so that expenses do not serve as a social barrier to their membership.

Website biography

20. Appointed members may have a short biography placed on the website of the six core partners, so that the public can access information on the committee's membership.

Meetings and records

Timing of meetings

21. The DAIDEC will meet privately to discuss the ethical issues arising regarding specific ecda partners projects. Meetings will usually take place between 4 and 6 times a year, and dates will be set with every effort to ensure maximum attendance and sufficient prior notice. ecda will consider the personal circumstances of the members to try to avoid choosing times that act as a social barrier to their membership. Meetings will be held either in person or using video conferencing software.

22. ecda, its core partners or the DAIDEC may request a meeting outside of the normal schedule if it is deemed necessary to provide advice for a particular project in a timely fashion. In the event of particular topics and projects requiring further or more regular consideration, the DAIDEC may agree to form a 'task and finish' sub- group for this purpose. Such groups must be agreed by the Chair or Vice Chair of the DAIDEC and by a senior representative of the ecda partners.

23. For urgent advice or advice on emerging data, digital or AI project proposals DAIDEC members may agree to a reasonable request from ecda for an additional meeting. Alternatively, some projects may be put through a simpler process, engaging the DAIDEC via email to seek initial views. This simpler process will allow projects that need further work, or which cause immediate issues to be referred back without the need to go through the full Committee process. Meetings using this process must include the Chair and/or Vice Chair.

Minutes of meetings

24. Minutes or a record of decisions and actions, as appropriate, will be taken at all meetings, and will be agreed by the members and in all cases by the Chair/Vice Chair on or before the next committee meeting.

25. All or part of such records may be redacted at the direction and reasonable discretion of the DAIDEC, ecda, and/or any one of the six ecda core partners for the purpose of maintaining confidentiality, operational sensitivity and personal data.

Quorum

26. DAIDEC meetings will be considered quorate when six or more non ecda members are present provided that either the Chair or Vice Chair are also present. Every effort will be made to achieve the minimum number of attendances during any transition periods.

27. Substitutes will not be permitted to attend meetings, unless by invitation of the Chair or Vice Chair.

28. In order for any expedited proposal to be formally recommended by agreement over correspondence (e.g. by email), a sufficient number and category of members would need to respond in accordance with a quorate meeting.

Secretariat

29. Ecda will appoint an ecda Secretariat to organise the meetings and help administer the briefing papers for the DAIDEC.

30. The ecda Secretariat will ensure there is consistency in the format of briefing papers and the advice provided by the DAIDEC.

31. Briefing papers which will include details of the project proposals submitted by ecda and its partners and any legal or ethical advice already received as well as any statutory or other assessments already completed. Papers will be sent to DAIDEC members at least one week before scheduled meetings, or sooner where possible, to ensure members have enough time to consider the content of the papers.

32. The Secretariat may provide further procedural rules from time to time, with the agreement of the six core ecda partners, to ensure the smooth running of the DAIDEC and advisory process. Such rules must be formally agreed by the ecda Partnership Board prior to release by the Secretariat.

Engaging the DAIDEC

Format of meetings

33. At the beginning of every meeting representatives from ecda and/or its partners shall be given an opportunity for a closed discussion prior to presentation of the project proposal(s). Normally the DAIDEC secretary/Chair and the senior partner representative present and other presenters will remain for the duration of the meeting to answer any questions. All meetings, other than urgent meetings following a simplified process, will follow a similar format allowing the DAIDEC to be briefed on, and to discuss, the problem the project is seeking to solve as well as the project itself. Non DAIDEC individuals present may answer questions as above but may not participate in the discussions or give advice.

The Process

34. In the ordinary course of business, the process for engaging the DAIDEC is as follows:

a) Following internal ecda partners governance process a proposed project will be presented to the DAIDEC. In preparing a data project proposal, ecda and/or its partners will have undertaken a review of the available information in relation to the project or proposal.

b) If approved through ecda governance proposed ecda/partner projects will go through the DAIDEC, and the committee will consider the briefing papers and provide advice to ecda. All briefing papers and presentations will use plain English and will refrain from the use of jargon and acronyms. Where necessary a glossary of terms will be included.

c) ecda shall have regard to the advice provided by the DAIDEC. However, ecda will not be bound by the DAIDEC's advice. But in the event that ecda decides not to follow the advice of the DAIDEC, the decision not to do so must be agreed by all six of the core partners through the correct ecda governance process. If the decision is made to follow the DAIDECs advice contrary to the wishes of

one, or any, of the six core partners, then the partner(s) concerned may abstain from the project in question. However, ecda partners must be cognisant of the implications for public trust and confidence in the event that they do not follow the advice of the DAIDEC or take their concerns into account. It is anticipated that such decisions will be made by the ecda Sponsors Board in association with advice from the ecda core partners.

d) Where ecda and/or its partners do not follow the advice of the DAIDEC, ecda will advise the committee and will provide the reasons for the decision as soon as is practicable, unless doing so would undermine legitimate operational secrecy (including matters relevant to national security) or which should be kept confidential in accordance with principles of public law.

e) ecda partners presenting to the DAIDEC will feed back on advice given. Feedback will be sought by the secretariat after minutes have been circulated and again three months later. All feedback will be reviewed by the DAIDEC annually.

Advice process

35. Once notice of the meeting has been provided and the date scheduled, the committee will consider ecda's proposed project outlined in the briefing papers, including the methodology being adopted, and will provide advice in writing.

36. The DAIDEC's advice will be established by consensus, but any member has the right to be recorded in the meeting minutes as dissenting with the majority view of the committee.

37. At each stage of the DAIDEC's analysis (i.e. considering the initial project proposal; further reviewing the proposal with further details/amendments, implementation, and/or the success of any outcomes arising from implementing the project findings), it will issue written advice to ecda explaining its position. The content of the advice will depend on the circumstances of the particular project.

The advice will be circulated in writing by the Secretariat to the Chair and/or the Vice Chair as well as the attending committee members within ten working days of the meeting taking place. Members will then have five working days to make further comments in writing to allow sufficient time for reflection, after which point the advice will be circulated to project leads for final approval and redactions prior to posting on the DAIDEC online space where appropriate.

38. Post project the DAIDEC will also be given the opportunity to consider:

a) The proposed policies and/or operational strategies considered for interventions arising from the findings of the project/analysis; and

b) Whether or not any actioned policies and/or operational strategies were successful at achieving the stated objectives and/or an assessment of the public benefit or harm caused by such.

39. The DAIDEC will also be given an opportunity to review any proposed changes to the applicable project to consider the impact on the ethics issues.

Publication of briefing papers and advice

40. Minutes of DAIDEC meetings and/or the record of decisions and actions as kept will be made publicly available to ensure transparency, accountability and to maintain public trust and confidence where possible.

41. Information relating to the advice and the decisions of the DAIDEC will be published on appropriate websites.
42. The ecda sponsors retain the right to redact information contained in the minutes in the interests of national security if necessary or to prevent the disclosure of sensitive information in the public interest.
43. Note that these Terms of Reference (as may be amended from time to time) will also be made available on a page dedicated to the DAIDEC on appropriate websites.
44. At the end of calendar year, with the support of the Secretariat under the guidance of the Chair and Vice Chair, the DAIDEC will publish an annual statement outlining the work of the committee, save for those elements to be kept confidential pursuant to these Terms of Reference. Where applicable, the annual statement will include the ratio of non-disclosed to disclosed advice provided by the committee for the purpose of transparency.
45. Ecda will be given an opportunity to consider and scrutinise each annual statement.

Principles

46. ecda understands that what counts as ethically right or moral can be ambiguous and open to debate and disagreement, and that just because something is legal it does not necessarily follow that it is ethical. Members of the DAIDEC are expected to recognise this distinction, where relevant, when formulating their advice. What is or is not deemed ethical will often involve a complex analysis with no clear-cut answers or obvious solutions and members will be encouraged to bring their individual perspective to all issues considered by the group. Nevertheless, ecda and the six core partners are under a duty to make decisions that are in the public interest and as such they require support in turning the outcome of theoretical moral debates into meaningful actions. Appreciating that ecda operations across six different organisations, the DAIDEC is tasked with using its expertise to provide meaningful pragmatic advice that will help ecda reach ethical decisions in how to use data, data analytics and artificial intelligence to meet the objectives outlined in paragraph 1. The DAIDEC is established to bring different people together, with different perspectives and expertise, to conduct a thorough ethical analysis and provide practical and independent advice.
47. To that end, in reviewing project and policy proposals, the DAIDEC will provide ecda and its partners with advice having considered principles including those set out in the ecda Data Ethics Framework and the ALGOCARE Framework as per Appendix 2 and 3 respectively.
48. The DAIDEC will of course consider these principles in light of the need to preserve ecda's operational independence and legitimate need to maintain operational secrecy on a case-by-case basis.
49. DAIDEC members will be selected on the basis of the details contained in section 9 of the terms of reference and lay members are expected to have sufficient experience to be able to identify pertinent questions when assessing the ethics of a specific project proposal.
50. Questions the DAIDEC will want to consider will vary from project to project and give rise to different issues to be considered. Equally, the questions will vary in accordance with the stage at particular project is being considered by the group. E.g. The proposal stage suggested policy or operations as a result of the findings or an analysis of an operation's outcomes.

Terms of Reference review

51. ecda may amend these Terms of Reference by agreement of the Sponsors Board, and/or proposed amendments will be considered for approval by the head of ecda.

52. In the ordinary course of business, these Terms of Reference will be reviewed annually, by DAIDEC committee members, Chair/Vice Chair of the committee and ecda Board members, to consider whether amendments should be made to reflect relevant technological, legal and policy changes.

Appendix 1 – Definitions & Key Terms

ecda	The Essex Centre for Data Analytics, a partnership venture between Essex County Council, Essex Police, the University of Essex, Southend Council, Thurrock Council and Essex County Fire and Rescue Service.
DAIDEC	Data AI and Digital Ethics Committee
Article 2 ECHR	Article 2 of the European Convention on Human Rights – ‘Right to Life’
General Data Protection Regulations	GDPR – EU Regulation Implemented in May 2018 which addresses privacy and data protection of individuals citizens of EU and EEA, and transfer of personal data outside of EU and EEA
Data Protection Officer	As per GDPR regulations, organisations carrying out processing of personal data are required to appoint DPO. A Data Protection Officer will maintain and demonstrate compliance, provide advice and act as subject matter expert
Personal Data	Personal data includes information relating to natural persons who: can be identified or who are identifiable, directly from the information in question; or who can be indirectly identified from that information in combination with other information
Sensitive Personal Data	Data concerning an individual’s: race; ethnic origin; politics; religion; trade union membership; genetics; biometrics (where used for ID purposes); health; sex life; or sexual orientation
ecda Sponsors / Core Partners	Sponsors at the six partner organisations (Chief Constable at Police, Chief Executives of the Council, and Chancellor of the University)
Sponsors Board	Bi-monthly meeting of the three Sponsors and representatives from the partner organisations
ecda Core Group	Delivery Team members from six partner organisations
ALGOCARE Framework	A decision-making framework for the deployment of algorithmic assessment tools in the policing context

Appendix 2 – ecda Data Ethics Framework

Essex Centre for Data Analytics (ecda) and Essex Police Data/Digital Ethics Framework (updated September 2022)

This Data and Digital ethics Framework covers 7 specific areas which are relevant for the consideration and assessment of data and digital projects in the law enforcement and the public sector. These are:

Benefits and Public Good

Legislation and Codes of Practice

Data Limitations

Proportionality to needs of the intended beneficiary(s)

Practices and skills

Transparency and Accountability

Responsibility

Each area has a descriptor and some notes/questions to aid the user in completing the assessment. These are meant to serve as a guide and are not exhaustive. Users should not confine themselves to answering these questions, nor will every question be relevant to every project or proposal.

The ethics framework is supplemented by the ALGOCARE model which is widely used to help and assist in thinking through the use of algorithms in data projects.

<p>Data/Digital Ethics Framework</p>	<p>Comments – each of the 7 areas has a list of questions/things you might want to consider when completing this assessment. It is not an exhaustive list but is intended to serve as a guide to provoke thought.</p>
<p>The use of data has clear benefits for users and serves the public good, therefore we must always be clear about what we are trying to achieve for users - both citizens and public servants. Also, that the views of the public are considered in light of the data used and the perceived benefits of the research. Every effort must be made to ensure that benefits and public good are not to the detriment of individuals and groups especially through unintended consequences, data accuracy or bias.</p>	<p>Helpful Notes: Predictive policing or the use of predictive models always raises several ethical questions namely:</p> <p>Is there a self-fulfilling prophecy element to the proposals/branding individuals makes them behave that way?</p> <p>Are you at risk of stigmatising or marking out individuals in any way which could affect their life chances?</p> <p>What is the opportunity cost or what else could you spend the money on or put the resource into without using data which could have the same or greater impact?</p> <p>Is the model based on assumption of what individuals might do/not what they have done?</p> <p>Are we creating location bias/displacement?</p> <p>Is there monitoring of individuals that could change them, their perceptions or the way they subsequently behave?</p> <p>How is bias being deal with?</p> <p>Is there enough transparency in the model to avoid ‘black box’ decision making?</p> <p>Where does accountability lie? Is there enough human in the loop?</p> <p>Are we doing more harm than good?</p> <p>Are we creating a pernicious feedback loop in the sense that policing itself creates more data which justifies more policing?</p> <p>Are all crimes the same and do they carry the same weight in the data modelling?</p> <p>Are we creating unintended consequences?</p> <p>Is there a disproportionate impact on poorer areas?</p>
<p>Be aware of relevant legislation and codes of practice, you must have an</p>	<p>Helpful Notes: The DPIA should always be the starting point for this as it will furnish a lot of detail and insight into what has been considered already. The key</p>

<p>understanding of the relevant laws and codes of practice that relate to the use of data. When in doubt, you must consult relevant experts. Data used and methods employed are consistent with legal requirements such as the Data Protection Act, the Human Rights Act, the Statistics and Registration Service Act and the common law duty of confidence. The importance of consent and legitimacy must also be considered, and the cross over between ethics and the law must be taken into account and considered. All terms used must be explained and defined.</p>	<p>ethical question once it has been established that the lawful basis applies is – just because we can, does it mean we should? Other questions might be: Has any legal guidance been sought? Are there other similar circumstances/examples in other organisations? Would the average person think this is reasonable, and right? Has consent been fully considered? Is it informed consent? Who should consent? Is the proposal really too technical for anyone to consent? What are the implications for trust and confidence?</p>
<p>Understand the limitations of the data, data used to inform policy and service design in government must be well understood. It is essential to consider the limitations of data when assessing if it is appropriate to use it for a user need .The risks and limits of new technologies are considered and there is sufficient human oversight so that methods employed are consistent with recognised standards of integrity and quality. Governance and oversight must be a key part of the design and process with external scrutiny and challenge being key. Risks must be clearly considered and articulated, with particular emphasis on the impact of aggregation across agencies and partners.</p>	<p>Helpful Notes: Data is complex and is limited in its use and application. Data is flawed and therefore cannot be relied upon without additional considerations. Some questions might be: What is the data source? Is it from multiple sources, thereby creating new data when mixed? Do you know the original source of the data? Has it already been repurposed? Are key things missing from the data that should be considered? Has the governance and human oversight been sufficient? Are there data quality issues and is the data reliable? Are different types of data being combined? Is there an impact from this which can have adverse effects? Is the data sufficiently current for the purpose? Can you identify any inherent bias?</p>

<p>Use data that is proportionate to the user need</p> <p>The use of data must be proportionate to the user need. You must use the minimum data necessary to achieve the desired outcome. Anonymization must be considered if possible, especially in trials and early product iterations.</p>	<p>Helpful notes: It is important to use the minimum amount of data needed to reduce the level of intrusion to the lowest possible level for the purpose sought. Some questions are: Do you fully understand what the project outcomes are? Have they been clearly set out? How identifiable are individuals and groups in the data? Can you identify locations and other factors which diminish the anonymity? If you are using algorithms, do they work in such a way as to cause disadvantage to any particular group? Do you know how much Artificial Intelligence/Machine Learning has been used and how it has been used? Is the degree of transparency sufficient? Is the governance enough?</p>
<p>Ensure robust practices and work within your skillset</p> <p>Insights from new technology are only as good as the data and practices used to create them. You must work within your skillset recognising where you do not have the skills or experience to use a particular approach or tool to a high standard. Particular attention must be paid to the provenance and evidential requirements.</p>	<p>Helpful notes: Practices and governance are important, but in addition the organisation must be able to interpret and understand the data insights, where they come from (data) and how they have been created (technology). Whilst you don't need to be an expert have you had a sufficient briefing to be able to understand enough to examine the ethical implications? Does the organisation doing the project or analysis have sufficient skills, knowledge and experience to complete the work? How detailed was the briefing and paperwork you have received? Did it allow you to understand the project and its aims in detail?</p>

<p>Make your work transparent and be accountable, you should be transparent about the tools, data and algorithms you used to conduct your work, working in the open where possible. This allows other researchers to scrutinise your findings and citizens to understand the new types of work we are doing. The access, use and sharing of data is transparent, and is communicated clearly and accessibly to the public. Engagement with the community and public must be part of the data strategy, with the groups, methodology and outcome based action clearly identified from the start.</p>	<p>Helpful Notes: Transparency and accountability are at the heart of data and digital ethics. Not everyone is going to agree a project is ethical, as ethics is very subjective and depends on the ethical reference point for every individual e.g. does the end justify the means, does the greater good outweigh the impact on an individual etc. Considering the ethical implications, risks and impact of every data/digital project is about thinking everything through and being transparent about that thinking. Important questions might be: Whose views and ideas have been considered? Has there been any consultation and who with? What has been published/made available? Is there a communications plan and what does it look like?</p>
<p>Embed data use responsibly; it is essential that there is a plan to make sure insights from data are used responsibly. This means that both development and implementation teams understand how findings and data models should be used and monitored with a robust evaluation plan. The data subject's identity (whether person or organisation) is protected, information is kept confidential and secure, and the issue of consent is considered appropriately.</p>	<p>Helpful Notes: Data and digital projects must have outcomes for people and communities, so it is important that the commissioners of data/digital projects have control and influence over the outcomes to support the ethical basis for the work. Data and digital projects which use people's data to create insights which effectively sit in a draw are not usually considered to be ethical. The gathering of data and insight comes with a responsibility to use the data and insights for good. Some useful questions are: Is the purpose of the project clear? Is it achievable and practical? Is there sufficient control and governance to ensure the aims are met and the insights are used? Are the benefits understood and written down? Is there an implementation and review plan? What security is in place?</p>

Appendix 3 – ALGOCARE Framework

Another tool, which can be used in association with the ethics framework, is the ALGOCARE framework developed for used by Durham Police in relation to their Harm and Risk Tool (HART). The model asks a series of questions to be asked regarding the use of an algorithm to encourage thinking and to driver better decisions. Nevertheless, it is not a decision tree and does not take you down different routes according to each answer.

Fig. 1

<p style="text-align: center;"><i>Algorithms in Policing – Take ALGO-CARE™</i></p> <p style="text-align: center;"><i>A proposed decision-making framework for the deployment of algorithmic assessment tools in the policing context</i></p>		
A	Advisory	Is the assessment made by the algorithm used in an advisory capacity? Does a human officer retain decision-making discretion? What other decision-making by human officers will add objectivity to the decisions (partly) based on the algorithm?
L	Lawful	On a case-by-case basis, what is the policing purpose justifying the use of algorithm, both its means and ends? Is the potential interference with the privacy of individuals necessary and proportionate for legitimate policing purposes? In what way will the tool improve the current system and is this demonstrable? Are the data processed by the algorithm lawfully obtained, processed and retained, according to a genuine necessity with a rational connection to a policing aim? Is the operation of the tool compliant with national guidance?
G	Granularity	Does the algorithm make suggestions at the right level of detail/granularity, given the purpose of the algorithm and the nature of the data processed? Do the benefits outweigh any technological or data quality uncertainties or gaps? Is the provenance and quality of the data sufficiently sound? Consider how often the data should be refreshed. If the tool takes a precautionary approach towards false negatives, consider the justifications for this.
O	Ownership	Who owns the algorithm and the data analysed? Does the force need rights to access, use and amend the source code and data analysed? How will the tool be maintained and updated? Are there any contractual or other restrictions which might limit accountability or evaluation? How will the operation of the algorithm kept secure?
C	Challengeable	What are the post-implementation oversight and audit mechanisms e.g. to identify any bias? Where an algorithmic tool informs criminal justice disposals, how are individuals notified of its use (as appropriate in the context of the tool’s operation and purpose)?
A	Accuracy	Does the specification match the policing aim and decision policy? Can the stated accuracy of the algorithm be validated reasonably periodically? Can the percentage of false positives/negatives be justified? How was this method chosen as opposed to other available methods? What are the consequences of inaccurate forecasts? Does this represent an acceptable risk (in terms of both likelihood and impact)? Is the algorithmic tool deployed by those with appropriate expertise?

R	Responsible	Would the operation of the algorithm be considered fair? Is the use of the algorithm transparent (taking account of the context of its use), accountable and placed under review alongside other IT developments in policing? Would it be considered to be for the public interest and ethical?
E	Explainable	Is appropriate information available about the decision-making rule(s) and the impact that each factor has on the final score or outcome (in a similar way to a gravity matrix)? Is the force able to access and deploy a data science expert to explain and justify the algorithmic tool (in a similar way to an expert forensic pathologist)?

Fig. 2

<p><i>Brief explanatory notes and additional considerations</i></p> <p><i>The Algorithms in Policing – Take ALGO-CARE™ framework is intended to provide guidance for the use of risk-assessment, predictive, forecasting, classification, decision-making and assistive policing tools which incorporate algorithmic machine learning methods and which may impact individuals on a micro or macro level</i></p>		
A	Advisory	Care should be taken to ensure that an algorithm is not inappropriately fettering an officer’s discretion, as natural justice and procedural fairness claims may well arise. Consider if supposedly advisory algorithmic assessments are in practice having undue influence. If it is proposed that an algorithmic decision be automated and determinative, is this justified by the factors below? Data protection rights in regard to automated decisions may then apply.
L	Lawful	The algorithm’s proposed functions, application, individual effect and use of datasets (police-held data and third party data) should be considered against necessity, proportionality and data minimisation principles, in order to inform a ‘go/no-go’ decision. In relation to tools that may inform criminal justice disposals, regard should be given to the duty to give reasons.
G	Granularity	Consideration should be given to common problems in data analysis, such as those relating to the meaning of data, compatibility of data from disparate sources, missing data and inferencing. Do forces know how much averaging or blurring has already been applied to inputs (e.g. postcode area averages)?
O	Ownership	Consider intellectual property ownership, maintenance of the tool and whether open source algorithms should be the default. When drafting procurement contracts with third party software suppliers (commercial or academic), require disclosure of the algorithmic workings in a way that would facilitate investigation by a third party in an adversarial context if necessary. Ensure the force has appropriate rights to use, amend and disclose the tool and any third-party data. Require the supplier to provide an ‘expert’ witness/evidence of the tool’s operation if required by the force.
C	Challengeable	The results of the analysis should be applied in the context of appropriate professional codes and regulations. Consider whether the application of the algorithm requires information to be given to the individual and/or legal advisor. Regular validation and recalibration of the system should be based on publicly observable (unless non-disclosable for policing/national security reasons) scoring rules.

A	Accuracy	How are results checked for accuracy, and how is historic accuracy fed back into the algorithm for the future? Can forces understand how inaccurate or out-of-date input data affects the result?
R	Responsible	It is recommended that ethical considerations, such as consideration of the public good and moral principles (so spanning wider concerns than legal compliance) are factored into the deployment decision-making process. Administrative arrangements such as an ethical review committee incorporating independent members could be established for such a purpose (such as <u>Cleveland & Durham Joint External Ethics Committee</u> or <u>NSDEC</u>).
E	Explainable	The latest methods of interpretable and accountable machine learning systems should be considered and incorporated into the specification as appropriate. This is particularly important if considering deployment of 'black box' algorithms, where inputs and outputs are viewable but internal workings are opaque (the rule emerges from the data analysis undertaken). Has the relevant Policing & Crime Commissioner been briefed appropriately?

