

Data Science and AI for Public Good in Essex:

**Cross-sectoral collaboration between Essex County
Council, Essex Police, and University of Essex**

Slava Jankin Mikhaylov
CSA to Essex County Council
University of Essex

Essex Centre for Data Analytics (ECDA)



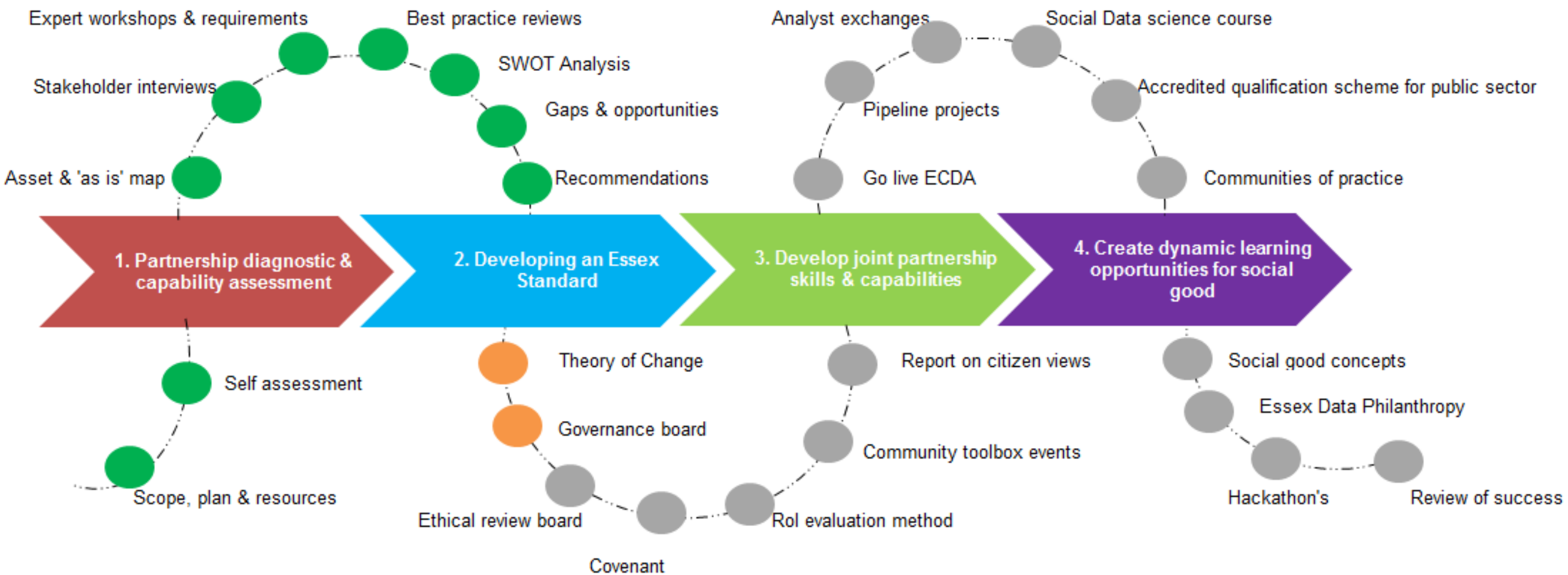
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The Vision: To make Essex national leaders using the power of data science and AI to tackle public policy challenges

The Aims:

- To make Essex a place that is an exemplar for the integration of data across public bodies.
- To have the skill, capability and technology to undertake predictive analytics based on ethical, high standards.
- To have a sustainable data infrastructure.
- To have the best data science / analytical capabilities in the UK to benefit our people and communities.

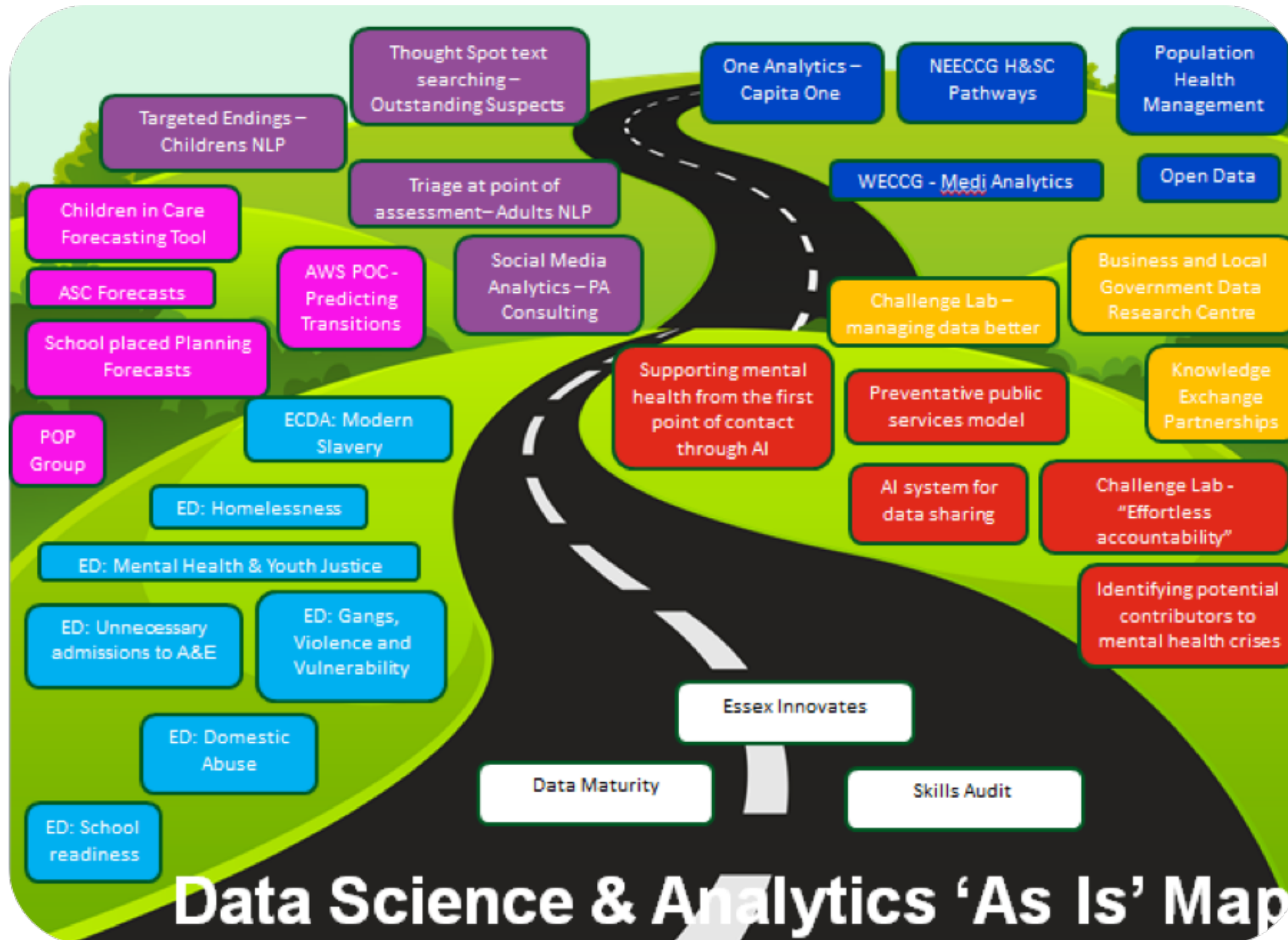
ECDA: Pipeline



ECDA: Self-assessment

 What we do well	 What we need to do better
<ul style="list-style-type: none">• Highly skilled workforce & availability of training• Predictive analytics experience and application• Leadership Buy in• Credibility & reputation	<ul style="list-style-type: none">• Sustainability & operational ability• Citizen voice & transparency• Infrastructure• Impact
 Opportunities	 Considerations
<ul style="list-style-type: none">• Strategic Alignment & place shaping• Data expeditions• Connectivity• Speciality dishes	<ul style="list-style-type: none">• Infrastructure & data sharing platform• Governance• Ethical review & assurance

ECDA: Roadmap



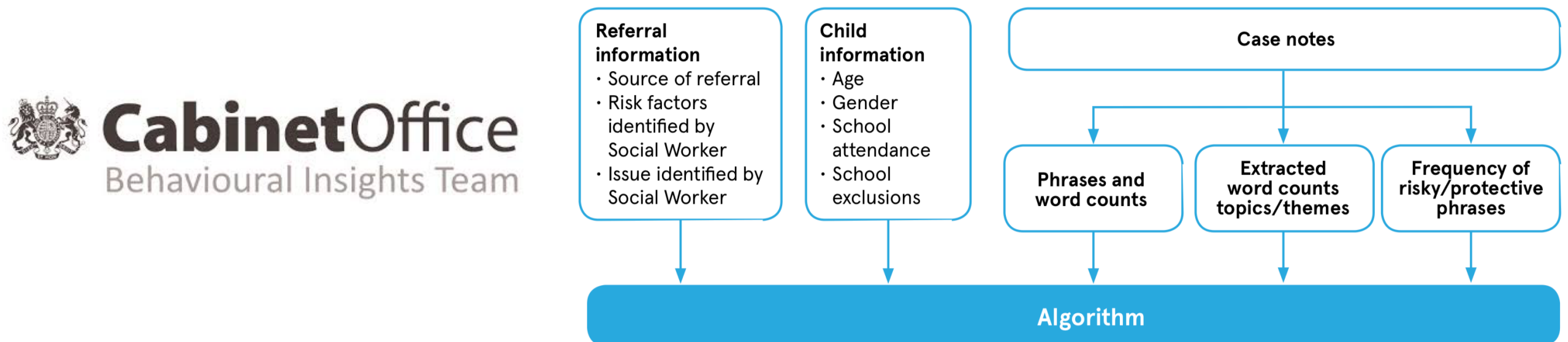
ECDA: Opportunities



ECDA: NLP in policy

- Children's social care
- Given the text of the initial referral and assessment, and structured data relating to the case, could we predict whether the case would be re-referred and escalated if it were closed?
- ML and NLP

Figure 5: The inputs of the machine learning algorithm used to detect escalated closed cases.



ECDA: Risk stratification

- Hackney & Thurrock councils and tech company Xantura developed a predictive system to identify vulnerable families in need of additional council support.
- Brent and IBM developed a risk model to identify children at risk of criminal exploitation.



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Child protection

Councils use 377,000 people's data in efforts to predict child abuse

Exclusive: Use of algorithms to identify families for attention raises stereotyping and privacy fears

Niamh McIntyre and David Pegg

Sun 16 Sep 2018 16.00 BST

f t e 1,378

This article is over 2 months old

▲ At least five councils have developed or implemented a predictive analytics system to safeguard children. Photograph: Alamy Stock Photo

Vast quantities of data on hundreds of thousands of people is being used to construct computer models in an effort to predict child abuse and intervene before it can happen, the Guardian has learned.

Amid mounting financial pressure, local councils are developing “predictive analytics” systems to algorithmically identify families for attention from child services, allowing them to focus resources more effectively.

But while the new algorithmic profiling could be one way of helping social

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Child protection

Data on thousands of children used to predict risk of gang exploitation

Brent and Essex councils work with IBM on system to try to identify problems before they arise

Niamh McIntyre and David Pegg

Mon 17 Sep 2018 19.29 BST

f t e 87

This article is over 2 months old

▲ The system is also being used to profile children living in Basildon to identify those who might be unable to read or write. Photograph: David Jones/PA

Predictive software has been assessing data on the lives of thousands of children, from their potential exploitation by gangs to their risk of not being ready for primary school.

The technology company IBM has been working with Brent council to try to predict which children were at risk of gang exploitation, while Essex county council has profiled all of the children living in one of the wards of Basildon to try to identify those that might be unable to read or write.

On Sunday, the Guardian revealed how local authorities have been using machine learning and predictive technologies to intervene before children were referred to social services.

However, the programmes being run by Brent and Essex illustrate how advocates of predictive analytics believe the technology can be adapted

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Councils use 377,000 people's data in efforts to predict child abuse

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10

ECDA: Essex Standard

Openness, transparency,
and ethics underpin
ECDA work

Thank you!

s.mikhaylov@essex.ac.uk