



Data Collection & Data Management Plan

Evaluating the Essex Data Programme

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1 ECC's Essex Data Project: Background Information

1.1 About the Project

The Essex Data Project seeks to pilot a way of safely sharing and matching partner data to enable it to be used to predict risk to provide insight to support a shift to early intervention. Issue based prototypes to address system wide challenging issues make up the pilot. The first prototype will be on *school readiness* in the Ward of Vange in the Borough of Basildon. Information will be used to inform commissioning or intervention decisions so children in the community are school ready and have the best start in life¹.

The overall project objectives are to generate²:

- A safe and effective data sharing platform;
- An effective Predictive Risk Profiling capability;
- Evidence that successful integrated strategic planning and delivery has occurred;
- Delivery of outcomes from original bid for vulnerable children and their families
- Identification of opportunities for standardisation of data collection;
- Early intervention financial benefits through avoidance or demand reduction.

The project is broken down in the following phases:

- **Phase 1 – Analysis and design:** Investigated current project across Essex and the UK. Determine whether an authority has progressed with this type of project, to avoid unnecessary development. Assess early thoughts that we are leading edge and no authority has yet produced a solution
- **Phase 1a – Procurement:** Identify the most suitable solution to meet requirements and adapt to future potential needs, which will be flexible and scalable.
- **Phase 2 – Implementation:** Undertake predictive risk profiling and strategic planning for Vange. Develop appropriate strategy to deliver outcomes for young children and their families within their community.
- **Phase 3 – Learning, Scaling Up:** Developing additional prototypes to enable the scaling up of predictive risk modelling. to more accurately identify trends and issues commissioners and practitioners need to review and potentially act upon.
- **Phase 4 – Business as usual:** Embed methodologies, systems, processes and procedures. This will not include the technical infrastructure but will identify any ongoing staffing resources, governance arrangements and funding implications.

1.2 Project Timeline

To date the delivery of the ED programme has been split into procuring a technical platform, and implementing the platform around 4 prototypes:

- Vange New Generations (school readiness) prototype, using the insight to deliver change in Vange.
- Domestic Abuse
- CSE and Self harm
- Health and social care

Delays in the procurement timeline, compared with the original business case had been incurred largely due to the challenges around defining the scope and requirements, data that

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would be used and agreeing how this would be shared. Further delays in the implementation timeline were incurred due to the challenges in delivering a reliable and meaningful risk profiles.

Table 1. Essex Data Programme, Milestones (all prototypes)

Abridged milestones	Milestones (Jul 17)
ED Platform	
Procurement Business case agreed by TCA Steering Board	
Procurement process commenced - PQQ issued	February 2016
Preferred bidder shortlisted	May 2016
Contract awarded	July 2016
Insight for Innovation services procured	July 16
Information Sharing Protocols agreed	March 17
Platform project launch meeting	Sept 2016
Insight for Innovation research completed	April 2017
Analyse and present insight for innovation findings and co-production of solutions	July 2017
New Generations - using the insight to deliver change - Business Case approved by TCA Steering Board	September 2017
Prototype 1 – School Readiness	
Commence prototype loading of data	January 2017
Agree ISPs	April 2017
Extract Data	April 2017
Analysis and interpretation of data	June 2017
Risk profile for Vange school readiness available and issued	July 2017
Develop Risk Model and Dashboard	July 2017
Vange co-produced commissioning plan in place	September 2017
UoE Review findings reported	August 2017
Prototype 2 – Domestic Abuse	
ED Board initial concept approval	February 2017
Research	April 2017
Scope and Engage Partners	April 2017
ED Board formal prototype approval	May 2017
Ethics and ED Board sign off	July 2017
Data fields defined	July 2017
Business case, impact and benefits, ethics and risk comms plan in place	September 2017
Business case to ED Board sign off	September 2017
Agree ISPs	September 2017
Extract Data	October 2017
Develop data dashboard	October 2017
Develop Risk Model and risk Dashboard	November 2017
Analysis and Interpretation	December 2017
Profile and Analysis available	December 2017
Prototype 3 – CSE/Hidden Harm	
ED Board initial concept approval	February 2017
Research	May 2017
Scope and Engage Partners	August 2017
ED Board formal prototype approval	August 2017
Data fields defined	September 2017
Ethics and ED Board sign off	October 2017
Business case to ED Board sign off	November 2017
Agree ISPs	December 2017
Extract Data	December 2017

Develop data dashboard	January 2018
Develop Risk Model and risk Dashboard	February 2018
Analysis and Interpretation	March 2018
Profile and Analysis available	March 2018
Prototype 4 – Health and Social Care	
ED Board initial concept approval	February 2017
Research	March 2017
Scope and Engage Partners	September 2017
ED Board formal prototype approval	November 2017
Data fields defined	November 2017
Ethics and ED Board sign off	December 2017
Business case, impact and benefits, ethics and risk comms plan in place	January 2018
Business case to ED Board sign off	January 2018
Agree ISPs	February 2018
Extract Data	March 2018
Develop data dashboard	April 2018
Develop Risk Model and risk Dashboard	May 2018
Analysis and Interpretation	June 2018
Profile and Analysis available	June 2018

Figure 1. Revised Timescales, Essex Data Programme– School Readiness (Vange) Prototype

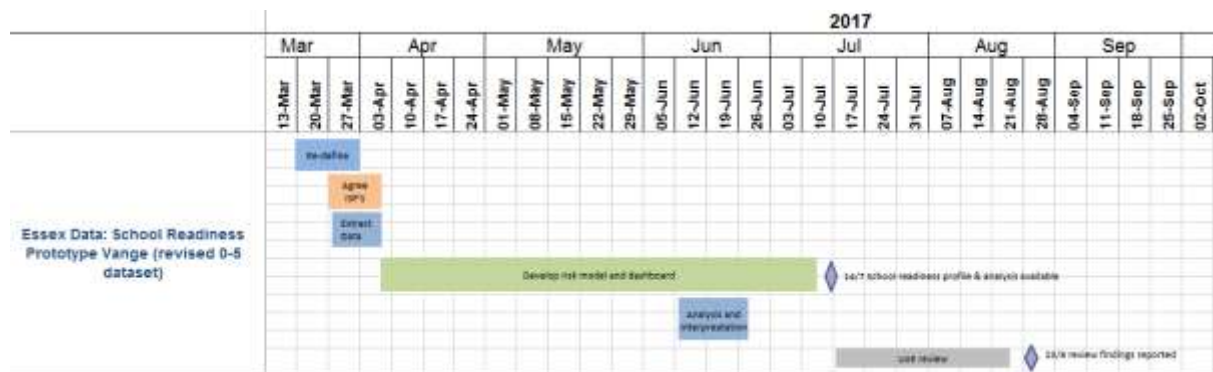
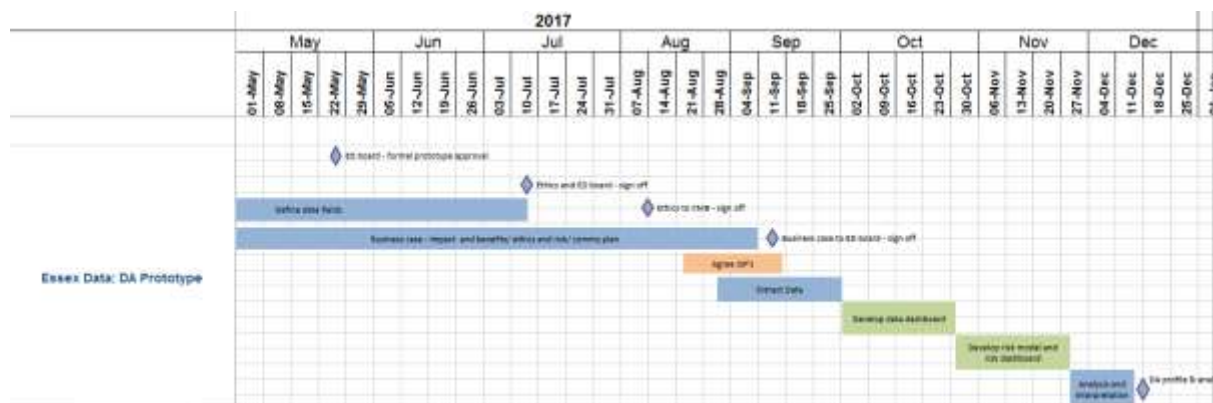


Figure 2. Revised Timescales, Essex Data Programme– Domestic Abuse Prototype



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Figure 3. Revised Timescales, Essex Data Programme– CSE Hidden Harm Prototype

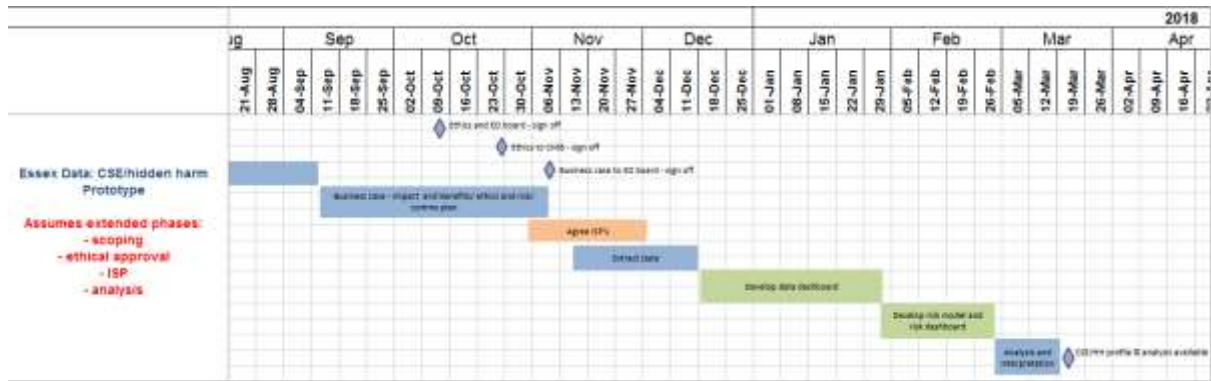
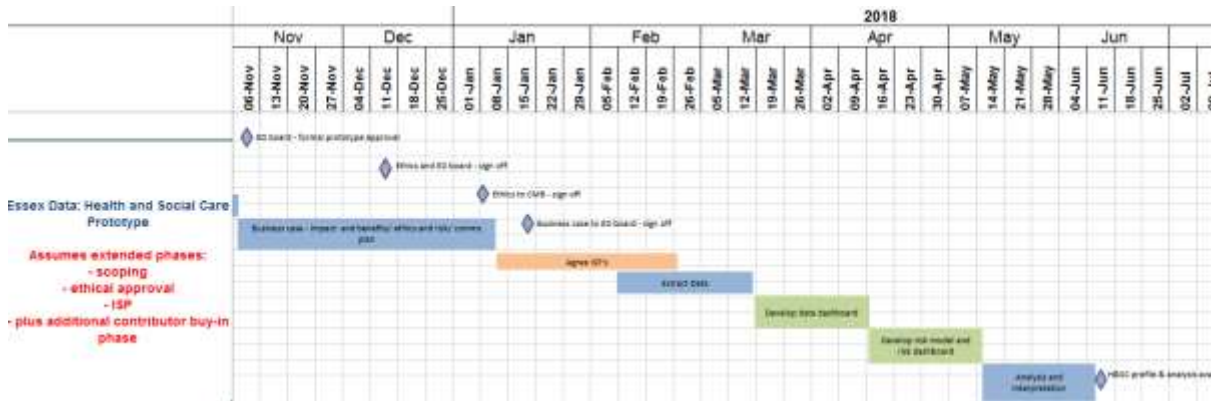


Figure 4. Revised Timescales, Essex Data Programme– Health and Social Care Prototype



1.3 Costs & Benefits

1.3.1 Introduction

To date the delivery of the Essex Data programme has been split into procuring a technical platform, implementing the platform around the Vange New Generations (school readiness) prototype, and using the insight to deliver change in Vange. At the time of this report, procurement was complete and activities to implement the risk model for school readiness in Vange and use it alongside the Insight for Innovation work to make changes in Vange were underway.

Delays in the procurement timeline had been incurred largely due to the challenges around defining the scope and requirements, the data that would be used and agreeing how this would be shared. Delays in the implementation timeline had been incurred due to the challenges in delivering a reliable and meaningful risk profile.

The investment in the Essex Data platform procurement and development was premised on a broad capability to share and use data for added insight however the financial benefits have only been modelled for the New Generations prototype, giving a relatively small financial benefit in comparison to the investment. These financial benefits will not be realised until the cohorts of children begin school. The first cohort that could show benefit from this work will begin school in Sept 2018 with data on school readiness available in January 2019. Benefits will continue to accrue as further intakes come through the school system.

The University of Essex are carrying out the evaluation and focus initially will be on non-financial benefits due to the need to demonstrate the value of the programme before January 2019.

The tables below summarize the costs (Table 2, Table 3), cashable financial benefits (Table 4, Table 5), Net Cost Avoidance Benefits (

Table 6, Table 7) and Financial Benefit Assumptions (Table 8) as discussed in (Reinhardt, Chatsiou & Ridler (2017a).

Table 2. Original BC v. Revised Costs, Essex Data Program

Costs	Original BC(Nov15) ³	Revised (Jun 17) ⁴	Difference
Costs for Phases 1 to 2 only	£131,000 ⁵	£655,200 ⁶	£524,200

Table 3. Original TCA Bid v. Revised Costs, Essex Data Program

Costs	TCA Bid (Sep 2014) ⁷	Revised (Jun 17) ⁸	Difference
Costs for Phases 1 to 2 only	£1,000,000	£655,200	-£344,800

Table 4. Original BC v. Revised Cashable Financial Benefits, Essex Data Program

Benefits	Original BC(Nov15) ⁹ Phase 1a only	Revised (Jun 17)	Difference
Cashable Financial Benefits	£0 ¹⁰	£20,649 ¹¹	£20,649

Table 5. Original TCA Bid v. Revised Cashable Financial Benefits, Essex Data Program

Benefits	TCA Bid (Sept 2014)	Revised (Jun 17) ¹²	Difference
Cashable Financial Benefits	£666,348	£20,649 ¹³	-£645,699

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Table 6. Original BC v. Revised Net Cost Avoidance Benefits, Essex Data Program

Benefits	Original BC (May 15) Subtracting benefits - costs¹⁴	Revised (Jun 17) Subtracting benefits - costs¹⁵	Difference
Net Cost Avoidance Benefits	-£131,000	-£634,551	-£503,551

Table 7. Original TCA Bid v. Revised Net Cost Avoidance Benefits, Essex Data Program

Benefits	TCA Bid (Sept 2014)¹⁶	Revised (Jun 17) Subtracting benefits - costs	Difference
Net Cost Avoidance Benefits	-£333,652	-£634,551	-£300,899

Table 8. Original v. Revised Assumptions, Essex Data Program

Assumptions (Nov 16)¹⁷	Revised (Jun 17)
On-going costs will be initiated from September 2016; Funding requested for 2 years of on-going costs to ensure the prototype can be fully implemented, tested, operational and evaluated; On-going costs based on licencing volumes and on-going maintenance costs including support for the data platform and repository; these costs may vary.	unchanged
Costs reflect bid provided by the supplier, based on data and system requirements as set out in the bid; Inclusion of additional data or partners beyond bid requirements may incur additional cost for which further funding would need to be identified; Costs may need review once detailed implementation plan is agreed with supplier.	unchanged
Until detailed discussions with the supplier, costs have a degree of uncertainty with regards to total time and level of resource required for implementation.	unchanged
Final costs will need reassessment following completion of the procurement for the insight for innovation activity.	unchanged

2 Evaluating the ED Project

This section sets out the framework for the evaluation of the Essex Data Project.

The research and evaluation outputs are expected to contribute to the following outcomes:

- Enhanced ability and culture of partners to share and analyse data
- Increased capacity to deliver early intervention and shift resource from reaction to prevention
- Increased capacity to evaluate and understand the longer-term impact of transformational activity

2.1 Evaluation and Measurement Framework

2.1.1 Stakeholders

Following a stakeholder analysis, the following were identified as stakeholders that could provide feedback on various aspects of the platform:

- **Decision makers:** people with key decision-making responsibilities for an intervention or area in the local authority (ECC). They will not use the platform themselves, but will make decisions based on the platform reports, generated by the **analysts**. They might not necessarily know how to find their way around ED platform. Decision makers can be part of a steering group for that area. They usually work hand-in-hand with local groups and front-line staff.

They should be able to reflect on the opinion of the platform's analytical abilities and how it has been supporting their wider group of collaborators including local groups and front-line staff.

- **Data providers:** people within an organisation (usually local authority public body) that have contributed data to the platform. They are usually the Information Assurance Officers or other similar people within that organisation who are responsible for negotiating transfer of data and signing data sharing agreements. They could also do part of the **data handler's** role.
- **Data handler:** people within either the data holder organisation or ECC who will be preparing the data for import, cleansing them, pseudonymising, cleansing or manipulating data to enable **analysts** to generate their report for **decision makers**.
- **System operators:** people within ECC or other organisation that is looking after the actual software/systems of the platform. They can set up automatic reports so that the requested information can be extracted from the platform's system information at regular intervals.
- **Analysts:** people (within ECC or other local authority organisation interacting with the platform to refine the data and analyse them, in order to generate insights and create the report for the **decision makers**.

2.1.2 Logic Model

DPaRS programme Logic model

Inputs	Activities	Outputs	Outcomes	Impact
<p>Funding attracted through bids to the Transformation Challenge Award and the HEFCE Catalyst project.</p> <p>Essex Partnership Board sponsorship and oversight.</p> <p>Delivery expertise and input -</p> <ul style="list-style-type: none"> - Project management and communication - Information Governance - Vulnerable People Commissioning - Data intelligence - Technical solutions 	<ol style="list-style-type: none"> Development of a tool that will enable data sharing across organisations and produce predictive analytics to support commissioners. <ul style="list-style-type: none"> - Procurement of third party data intelligence tool/partner. - Identifying and agreeing appropriate data sets for the prototype to enable the tool to be tested. - Collaborative implementation and testing of a Pseudonymisation tool, a data dashboard and risk model. Working with partners to engage them in the programme <ul style="list-style-type: none"> - Agreeing data share protocols with partners. - Communication of the benefits of the tool - develop the market - scale up. Building a body of knowledge around prototype 1 – school readiness in Vange <ul style="list-style-type: none"> - Insight for innovation work - Ethnographic research with families, insight from stakeholders and a report to inform the commissioning plan. - Metanalysis of the published research on variables impacting school readiness. Monitoring and Evaluation <ul style="list-style-type: none"> - Development of performance measures to enable the monitoring of progress of the programme. - Development of a financial benefits model to enable the benefits of the commissioning decisions informed by the tool to be calculated. - Production of a body of evidence to support a case for future funding of the third party contract costs. <p>Activities in scope but yet to be defined in detail</p> <ul style="list-style-type: none"> - Widening prototype 1 to cover a wider geographical area than Vange. - Developing two further prototypes in the areas of Domestic Abuse and Frailty in Older people. 	<ol style="list-style-type: none"> A data share platform and risk stratification tool that is <ul style="list-style-type: none"> - Accessible - Flexible - Easy to use - Compliant and secure - Scalable - Used and trusted by partners - Affordable and sustainable - Interoperable with other similar platforms and systems - With data sets that are Relevant to the risks being predicted - Flexible - Good quality - clean - Robust - Broad <p>That together produce valid predictions that can be used to inform commissioning.</p> A standardised agreement across partners involved in prototypes to share data. A communications approach that raises awareness of the programme. A proof of concept achieved via prototype 1. Risk profiles produced which are used to inform commissioning of early interventions to support children in Vange to be school ready. A metanalysis of research on variables impacting Children's readiness for school. Regular engagement and reporting on progress based on the logic model. Evaluation reports that demonstrate and evidence progress. 	<p>Prototype 1 - Best start in life; primary success measure School Readiness</p> <p>Children whose circumstance may have meant they were not ready for school at the age of 5, and therefore were not able to progress as expected through the schooling system, are supported early through interventions to them, their family, their community, so that they are ready for school and a downward spiral is prevented.</p> <ul style="list-style-type: none"> - More children are school ready in prototype area - The early interventions are predicted to bring overall savings to the taxpayer. <p>Improved culture of working across agencies to share data to enable better life chances.</p> <ul style="list-style-type: none"> - an openness and willingness to share data - an understanding of how to share data - a citizen and outcomes focus <p>Improved structures and processes to support data share.</p> <ul style="list-style-type: none"> - Shared systems - Shared protocols - Shared funding of tools - Joint commissioning <p>Improved community resilience in prototype area</p> <ul style="list-style-type: none"> - Less use of statutory services 	<p>A more joined up public sector workforce who use cross system data in a more agile and responsive manner to predict where to intervene to prevent issues becoming more complex and costly to support.</p> <p>Increased capacity to respond to the growing pressures on public services as interventions are made when issues are less complex and are more targeted.</p> <p>More efficient and effective use of public resources across the system and communities who rely less on public services.</p> <p>Improved life chances for vulnerable people</p>
<p>Context and Rationale</p> <p>Early intervention prevents issues escalating which is better for the people affected and less expensive for the taxpayer.</p> <p>Bringing together data sets held by different organisations and analysing them to predict risk can provide additional insight into where interventions should be targeting to prevent issues escalating.</p> <p>Separate organisational structures and cultural silos, plus information security and governance regulations, mean that openly sharing data sets between organisations that together support vulnerable people, although now recognised as key, is not yet happening effectively.</p> <p>The project aims to deliver a data sharing and risk modelling tool that will contribute to a culture change in the way partners work together to deliver targeted early interventions that support improved outcomes for vulnerable people and reduce the overall cost of interventions.</p>				

2.2 Evaluation Delivery Timeline

The stages below are based on the original evaluation framework set out in October 2016, proposed by Gina Yannitell Reinhardt and Liz Ridler. We note modification to the original framework below in italicized text.

The evaluation activities will be structured in three stages:

Stage 1: Evaluation Design	Aug 2017 – Nov 2017
Stage 2: Preliminary Evaluation	Dec 2017 – Mar 2018
Stage 3: Project Completion	Apr 2018 – Jul 2018

2.2.1 Stage One: Evaluation Design Stage

Timing: Aug 2017 – Nov 2017

Objectives:

1. Agree the project aims, outcomes and indicators, as well as likely methods of data collection.
2. Further analyze, working closely with leads at ECC, the current modelling for prototype 1, school readiness in Vange, presented in the business case:
 - o *Review assumptions on which case predictions were made;*
 - o *Gather/request any information necessary to fully understand predictions;*

- *Revise predictions as necessary, based on information gathered;*
 - *It is possible to review, revise some of the original assumptions. Due to the policy of PredictX (formerly Pi) to withhold information regarding the algorithm and data preparation, however, we cannot review or revise assumptions or predictions regarding the tool's predictive capabilities.*
- Determine which measures are feasible
 - *How can financial benefits be measured?*
 - *Because we delivered a financial benefits review for all TCA programmes with cashable benefits, the data collection plan will not be measuring financial benefits.*
 - *How can social benefits be measured?*
- 3. Compile questions of relevance/interest to stakeholders regarding the platform, the data, and data share behavior to form survey questions.
- 4. Design ED *implementation strategy* and measurement tools and instruments that will help assess progress toward business case predictions and address questions of interest.
 - *Since the tool was put into use prior to this data collection plan, it will not address how tool implementation can facilitate measurement.*
- 5. *Determine the best way to roll out implementation so as to test elements of mutual interest, e.g.:*

Promote use of the tool via three different means. Randomly assign potential users to receive one of the three means of promotion. The promotional means that attracts the most users, and the highest volume of use, will be the most effective means of scaling up. These results can be combined with cost figures to determine the more efficient use of resources.

Promote use of the tool in three successive waves. Measure risk assessment capabilities of partners before tool usage, after tool usage, and then at successive intervals. Capture tool value to partners over time to see whether usefulness grows (indicating tool adoption and sustainability), or diminishes (indicating lack of adoption).

 - These recommendations were not adopted during the setup phase of the first platform prototype.
- 6. Put measurement tools in place to collect baseline data for prototype 1.

2.2.2 Stage Two: Preliminary Evaluation Stage

Timing: Dec 2017 – Mar 2018

Objectives:

- 7. Assess progress of Essex Data: Platform toward business case predictions.
 - *The assessment will be conducted during this stage by collecting data as proposed in this plan.*
- 8. Decide whether current measures and activities are capable of generating evidence that can speak to predictions;

9. Perform preliminary analysis of data to determine which types of organisations are more likely to find the tool useful, which are more likely to use it, and which are more likely to change behaviour as a result.
10. Provide interim progress report with findings and recommendations for revisions, adjustments, etc., prior to project completion.

2.2.3 Stage Three: Project Completion Stage

Timing: Apr 2018 – Jul 2018

Objectives:

11. Evaluate data up to completion.
12. Provide final report with findings and recommendations for future activity.
13. Speak to the role of Essex Data in Essex County Council’s evolution. In particular, to address the questions:
 - *How does ED fit in to the broader TCA programme?*
 - *There is no longer any interest in pursuing evaluation of the TCA programme, since it has now been dissolved.*
 - Can ED help fuel the initiative for cultural change in Council projects, shifting from crisis assistance to early intervention?

An overview of evaluation activities against the programme timeline is provided in the diagram below. These activities will be replicated within additional prototype timelines (when known) which will add to the depth of data available from the various collection tools, as and when the different prototypes reach the *profile and analysis available* stage:

Table 9. Essex Data Programme, Milestones (all prototypes) vis-à-vis Essex Data Platform Evaluation activities

ED Programme Prototypes Milestones		ED Platform Evaluation
Prototype 1 – School Readiness		
Commence prototype loading of data	January 2017	
Agree ISPs	April 2017	
Extract Data	April 2017	
Analysis and interpretation of data	June 2017	
Risk profile for Vange school readiness available and issued	July 2017	
Develop Risk Model and Dashboard	July 2017	
Vange co-produced commissioning plan in place	September 2017	
UoE Review findings reported	August 2017	Stage 1: Evaluation Design
Prototype 2 – Domestic Abuse		
ED Board initial concept approval	February 2017	
Research	April 2017	
Scope and Engage Partners	April 2017	
ED Board formal prototype approval	May 2017	
Ethics and ED Board sign off	July 2017	
Data fields defined	July 2017	

Business case, impact and benefits, ethics and risk comms plan in place	September 2017	Stage 1: Evaluation Design
Business case to ED Board sign off	September 2017	Stage 1: Evaluation Design
Agree ISPs	September 2017	Stage 1: Evaluation Design
Extract Data	October 2017	Stage 1: Evaluation Design
Develop data dashboard	October 2017	Stage 1: Evaluation Design
Develop Risk Model and risk Dashboard	November 2017	Stage 1: Evaluation Design
Analysis and Interpretation	December 2017	Stage 2: Preliminary Evaluation
Profile and Analysis available	December 2017	Stage 2: Preliminary Evaluation
Prototype 3 – CSE/Hidden Harm		
ED Board initial concept approval	February 2017	
Research	May 2017	
Scope and Engage Partners	August 2017	Stage 1: Evaluation Design
ED Board formal prototype approval	August 2017	Stage 1: Evaluation Design
Data fields defined	September 2017	Stage 1: Evaluation Design
Ethics and ED Board sign off	October 2017	Stage 1: Evaluation Design
Business case to ED Board sign off	November 2017	Stage 1: Evaluation Design
Agree ISPs	December 2017	Stage 2: Preliminary Evaluation
Extract Data	December 2017	Stage 2: Preliminary Evaluation
Develop data dashboard	January 2018	Stage 2: Preliminary Evaluation
Develop Risk Model and risk Dashboard	February 2018	Stage 2: Preliminary Evaluation
Analysis and Interpretation	March 2018	Stage 2: Preliminary Evaluation
Profile and Analysis available	March 2018	Stage 2: Preliminary Evaluation
Prototype 4 – Health and Social Care		
ED Board initial concept approval	February 2017	
Research	March 2017	
Scope and Engage Partners	September 2017	Stage 1: Evaluation Design
ED Board formal prototype approval	November 2017	Stage 1: Evaluation Design
Data fields defined	November 2017	Stage 1: Evaluation Design
Ethics and ED Board sign off	December 2017	Stage 2: Preliminary Evaluation
Business case, impact and benefits, ethics and risk comms plan in place	January 2018	Stage 2: Preliminary Evaluation
Business case to ED Board sign off	January 2018	Stage 2: Preliminary Evaluation
Agree ISPs	February 2018	Stage 2: Preliminary Evaluation
Extract Data	March 2018	Stage 2: Preliminary Evaluation
Develop data dashboard	April 2018	Stage 3: Project Completion
Develop Risk Model and risk Dashboard	May 2018	Stage 3: Project Completion
Analysis and Interpretation	June 2018	Stage 3: Project Completion
Profile and Analysis available	June 2018	Stage 3: Project Completion

2.3 Data Collection Plan

Delivering improved services to the public is the utmost objective of all public programmes, and this data collection plan includes advice for assessing whether or not ED does so. The ultimate quality of services provided is, however difficult to measure in general, and impossible to measure under the timeframes and data constraints of this Data Collection Plan. We therefore offer advice for how ultimate impact can be measured beyond this DCP, below. We then address 4 additional key success themes that have been identified as key to monitoring and assessing ED in the interim.

2.3.1 Assessing Service Quality

Although improved public services cannot be measured now, this section offers suggestions of how it could be measured in the years following the introduction of the platform as a decision-making tool.

To establish that a data-sharing platform has improved school readiness, analysts must be able to assess school readiness data over time, beginning before the intervention, and ending after the intervention (or at time of assessment). This data must be collected for all wards where the platform is used (in this case, Vange), as well as comparable wards where the platform is not used.

In this case, the data should be collected for wards that are comparable on factors believed relevant in predicting school readiness. The first thought is typically to collect data from other wards within the Local Authority, which would mean other wards in Basildon. These wards are similar in geography and allow an analyst to eliminate the possibility that climatic or geographic factors may have influenced school readiness during the time under examination, as environment and geography will be identical for all wards examined.

Other data should be collected to assess comparability as well. For example, Vange was chosen for the prototype because it is known to be the most deprived area in Basildon. This means Vange is not similar to its neighbouring wards in terms of mean income, median income, unemployment rates, or household composition (single-parent, dual-parent, extended family, etc.). To make sure these factors are not muddying the analysis, data should be collected on all factors that might be drivers of school readiness, and incorporated into the analysis.

To determine which data to collect, research should be done to discover potential roots of school readiness. Reading academic publications, previous programme evaluations, and best practice documents will help analysts explore possible causes, and discern which of these possibilities should be explored. Once determined, data on these causes can be collected and included in the analysts' data set.

Over time, data regarding all pertinent aspects, drivers, and influences on school readiness should be collected. Much of this data will be available through the predictive tool currently in development. This data should be updated as new metrics are released from the appropriate assessment authorities. With each new update interim metrics can then be produced to indicate the possible effects of the data-sharing platform.

Once the data-sharing platform has been in operation long enough to begin to demonstrate results, the data can be analysed statistically to determine whether correlations between platform presence and school readiness can be found. We recommend operations such as analysis-of-means and ordinary least squares regression to estimate platform effects.

Since the prototype is meant to influence school readiness among very young children, we recommend that no attempt to draw conclusions about success/failure of the platform be made until at least three (3) cohorts of children have had the opportunity to benefit from the tool and attend school for readiness assessment.

2.3.2 Key Project Aims, Objectives and Success Indicators

Below we offer four objectives that are measurable and, if fulfilled, could indicate that the programme had overall positive impact on the people and the community.

We will use the following key project aims (key success themes) to build our measures:

1. Create a platform that facilitates decision-making;
2. Create/Foster a culture of data sharing;
3. Create a platform that is fit-for-purpose: flexible and scalable; whose data are valid and usable; which complies with related data privacy and security regulations; which is accessible and easy to use;
4. Create a platform that is good value for money.

For each of these project aims we have identified the following as outcomes that will manifest if a project aim is fulfilled:

Project Aim 1: Create a platform that facilitates decision-making

- 1.1 Increased use by partners and commissioners; Increased number of access options (e.g. on the go, via remote connection etc.);
- 1.2 Increased reliance on the tool to deliver relevant and informed policies; improved adaptability to many different research and policy questions; Commissioners make decisions based on ALL data available;

Project Aim 2: Create/Foster a culture of Data Sharing

- 2.1 Increased number of partners who demonstrate confidence and trust to share data with other partners;
- 2.2 Partners have more procedures/structures in place in advance to facilitate data sharing;
- 2.3 Increased quality of information and information maturity (quality, documentation, errors in data) being fed into the platform;
- 2.4 Increased number of data sets ingested and made available in the ED platform;
- 2.5 Reduction in the resources (time and effort) necessary to collect data - favouring more automated and based on linking data already held across partners;

Project Aim 3: Create a platform that is fit-for-purpose

- 3.1 Improved accessibility both in terms of the formats, platforms available, following standard web accessibility best practice;
- 3.2 Improved usability;
- 3.3 Improved flexibility and scalability, allowing for different uses and types of datasets; balancing security and privacy with business needs effectively;
- 3.4 Maintain low levels of downtime;

- 3.5 Improved data quality through the use of a valid risk stratification model and valid & good quality data;

Project Aim 4: Create a platform that is good value for money

- 4.1 Improved affordability and sustainability; reduced costs. Commissioners can target resource more effectively;
- 4.2 Improved interoperability with other similar platforms and systems; the platform can "interact" with other systems (e.g. by importing/exporting to different formats or by the use of plug in applications);
- 4.3 Increase in total amount of net cost avoidance benefits;
- 4.4 Overall cost of delivering existing interventions decreases. Commissioners can commission smartly with a range of data and intelligence;

Each of these outcomes can be measured using the following indicators that we have identified as possible to measure before, during and after the programme implementation:

1.1 Increased use by partners and commissioners; Increased number of access options (e.g. on the go, via remote connection etc.)

- Number of hours of logged in activity;
- Number of users;
- Number of data sets contributed by partners;
- Number of licenses held by partners & purpose of data use (as specified on the licenses);
- Number of hours of logged in activity;

1.2 Increased reliance on the tool to deliver relevant and informed policies; improved adaptability to many different research and policy questions; Commissioners make decisions based on ALL data available

Quantitative measures:

- Number of commissioners/users that currently use the tool;
- Number of policies/interventions/services that were informed by the tool;
- Number of research questions/policy questions that were addressed using the tool;
- Number of people impacted by the new services;
- Commissioners' rating of usefulness of the ED platform for decision making;

Qualitative measures:

- Did the tool help commissioners make informed data decisions? If yes, How? If not, why?
- Would you recommend the tool to a friend/colleague?
- Provide an example where the tool helped a commissioner get greater clarity on expected outcomes and direction of intervention;
- Provide an example of a time when commissioners were provided with an insight into potential problems early;

- Provide an example where a commissioner has used the tool to pioneer early interventions for long term outcomes;
- How did the data impact strategic planning?
- What changed as a result of the data?

2.1 *Increased number of partners who demonstrate confidence and trust to share data with other partners*

- Ratings or qualitative data on perceptions of partners' confidence and comfort in sharing data;
- Number of data sharing agreements across partners;
- Number of joint projects across services;

2.2 *Partners have more procedures/structures in place in advance to facilitate data sharing*

- Number of procedures/guidance per partner relevant to data sharing;

2.3 *Increased quality of information and information maturity (quality, documentation, errors in data) being fed into the platform*

- Existence of guidance documents or procedures outlining what good quality data is and how to feed it into the system;
- Number of partners who follow these guidelines with regards to quality, documentation, uploading and errors in data for data preparation and uploading vs. number of partners who don't;
- Information/Notes on data quality of data across all current data sources in the platform;
- Number of data sources that is received with accurate and well described metadata (ie. data dictionaries, content around collection of data etc.);

2.4 *Increased number of data sets ingested and made available in the ED platform*

- Number of data sources shared by partners to be fed into the platform;

2.5 *Reduction in the resources (time and effort) necessary to collect data - favouring more automated and based on linking data already held across partners*

- Amount of Time (hours) it takes to collect data and reach a decision/implement a policy;
- Amount (hours) of staff time it took to collect data and reach a decision and implement a policy;
- Costs associated with collecting data and reaching a decision/implement a policy;

3.1 *Improved accessibility both in terms of the formats, platforms available, following standard web accessibility best practice*

- Level of satisfaction of users re accessibility;
- Compliance ratings from automated web accessibility tests;

3.2 *Improved usability*

- Level of satisfaction of users re usability;
- Level of satisfaction of users with disabilities/special needs;
- Compliance ratings from automated web accessibility tests;

3.3 *Improved flexibility and scalability, allowing for different uses and types of datasets; balancing security and privacy with business needs effectively*

- Number of cases when the same platform was used for different projects, with little tailoring;
- Number of different project the platform has been use for and their differences;
- Comparison between different types of ED platform dashboards: differences in how the data was matched; differences in geographical coverage of the data;
- Case study - where security and privacy concerns were high, but business needs and public benefit justified the need; or where security and privacy concerns were successfully managed and concerns overcome to maximise benefit to the public;
- Case study - where the platform was used for additional types of pilots, or by increased number of partners compared to those envisaged in the beginning of the project;

3.4 *Maintain low levels of downtime*

- Number of hours of continuous uptime;
- Frequency of downtime;
- Duration of downtime;
- Dates and time of downtime instance;
- Number of downtime issues reported to IT (as affecting business continuity);

3.5 *Improved data quality through the use of a valid risk stratification model and valid & good quality data*

- Users' rating of data quality of platform data;
- Feedback from the commissioners regarding usefulness for decision making;
- Risk scores;
- Evaluation of the risk model - how good is the model?

4.1 *Improved affordability and sustainability; reduced costs. Commissioners can target resource more effectively.*

- Cost of platform (direct, indirect, opportunity, in kind etc);
- Expected scale up costs;

4.2 *Improved interoperability with other similar platforms and systems; the platform can "interact" with other systems (e.g. by importing/exporting to different formats or by the use of plug in applications)*

- Number of formats the tool can export to;
- Number of plug ins available;

- Number of cases when the platform has interacted successfully or unsuccessfully with other systems/or collected data;

4.3 Increase in total amount of net cost avoidance benefits

- Programme costs (direct, indirect, opportunity, in kind);
- Programme benefit (in terms of cost-avoidance, cashable);

4.4 Overall cost of delivering existing interventions decreases. Commissioners can commission smartly with a range of data and intelligence

- Programme costs (direct, indirect, opportunity, in kind etc);
- Intervention costs (direct, indirect, opportunity, in kind etc);
- Number of cases where commissioners have used the tool for commissioning;
- Commissioners' rating of usefulness of the ED platform for decision making;

2.3.3 Types of Data that can help address these questions

We propose to collect data via the following means:

1. **Survey:** A survey of Users, Data Contributors, Data Developers and Analysts will allow us to assess perceptions and utility. The survey will ask questions regarding tool flexibility, accessibility, ease of use, value, relevance, confidence in data security, hopes for the tool, and whether the tool is helping (in expected or surprising ways).

The survey will allow for and request open-ended answers for narrative reports. It will request self-reported input of whether priorities/activities shift after exposure to the tool.

The survey will be administered twice, once in M1 of Phase 2 and once in M1 of Phase 3.

2. **Platform data review:** this will be done by the ECC Insights and Intelligence and the Risk Stratification Team of the UoE and results of that review will feed into the final evaluation report.
3. **Web analytics:** Use ISP addresses and user login information to track platform usage by user over time. These will be provided by PredictX.

The table below summarizes the outcomes, contributory primary and secondary research activities:

Table 10. Overview of the project aims and corresponding research activities.

no.	Project Aims	Contributory primary research activities
1	Create a platform that facilitates decision-making Increased capacity to deliver early intervention and shift resource from reaction to prevention	Survey (Users)

Data Collection & Data Management Plan: Evaluating the Essex Data Platform

2	Create/Foster a culture of data sharing	Survey (users/data contributors) Web analytics Platform data review
3	Create a platform that is fit-for-purpose: flexible and scalable; whose data are valid and usable; which complies with related data privacy and security regulations; which is accessible and easy to use	ED User Activity Data Survey (Platform Developers & Analysts) – on quality Accessibility web tests
4	Create a platform that is good value for money	Cost Benefit Analysis of prototype specific data Survey (Users) Survey (Platform Developers & Analysts)

2.3.4 Sampling and Administration

The survey will be administered by ECC PSU, who will distribute the survey, solicit responses, collect responses and compile the responses in an electronic tabular format, preferably in .xlsx or .csv. Participants will be solicited from all tool users and contributors. Final data files will be given to the UoE Programme Evaluation Team for analysis.

2.3.5 Research Outputs and Outcomes

We expect to generate the following research products:

- Data set of survey responses and web analytics (linked by user)
- Programme Evaluation instruments (surveys, questionnaires)
- Interim Progress Report Mar 2018
- Final Evaluation report July 2018

2.4 Data Management Plan

2.4.1 Technical specifications (Data Types, Data Formats, Standards and Capturing Methods)

Overall, the format the information shared is likely to be csv or other text based format, Microsoft Office Files (.xls, .xlsx, doc,.docx) and PDFs. In particular, for each data type:

a. Survey data that will not include personal information (anonymous data) could be collected using an online form (Microsoft Forms). The form will be available to use on desktop and mobile browsers¹, ensuring a broad audience can respond without the need to download additional software or app. The tool can output data both in .xlsx and .csv format as well as an export (in .pdf) of the system generated statistics and graphs.

b. Cost Benefit data will include spreadsheets in MS Excel format either as raw data, or as filled in versions of the **Manchester New Economy Model** spreadsheet. Data files will be updated periodically to reflect the most up-to-date values of the cost model and the ED Project.

c. Other system data will most likely be delivered in .csv or other tabular data format. This will most likely include any system dump of information on e.g. logging frequency of users etc.

d. Digital Text Documents will most likely be delivered in Microsoft Word (.docx/.doc) or Adobe Acrobat (.pdf) format. These will need to be analysed and coded in conjunction with the rest of the data.

The frequency with which the information will be shared is One-off, with updates to the data as appropriate.

2.4.2 Ethics and Intellectual Property

2.4.2.1 Informed Consent and Data Sharing

The project has sought and gained ethical approval by the University of Essex Faculty of Social Sciences Ethics Committee for the work outlined in this document.

Every participant will be given an information sheet about the nature of the project and the research goals.

Evaluation data will be collected with informed consent from any programme stakeholder (users, analysts and software developers and data contributors/owners), and will detail data use and re-use. The informed consent statement will conform to guidelines of the University of Essex Research Ethics Committee, and will inform respondents that taking part in the study by giving survey answers or interviews demonstrates they have given their informed consent for the information to be used for research purposes.

In addition to the new data collected, system and operations data will be made available to the team to analyse, too. The primary aim of sharing data for this project is to better understand the impact of the local authority initiatives that are pioneering new ways of

¹ Microsoft Forms is optimized for Internet Explorer 10+, Edge, Chrome (latest version), Firefox (latest version), Chrome on Android (latest version), and Safari on iOS (latest version). See the **Support Pages** for more information.

delivering proactive services and predicting areas to focus intervention resources. The terms and conditions of the data share are outlined in the Data Sharing Agreement, where Essex County Council confirm their right to be named “data controllers” of the data and have indicated that they can share the data with the University of Essex to perform the work outlined here.

2.4.2.2 *Legal and Ethical Issues*

The data share complies with the Data Protection Act (1998), in that any personal data will be shared fairly and lawfully: the processing is necessary for the exercise of the functions of a public nature exercised in the public interest.

No further legal and Ethical Issues could be identified.

2.4.2.3 *Anonymizing Data*

Data will be anonymized at source – unless participants have consented for their personal information to be retained. All outputs will be anonymized – any tables or graphs outputs of the data analysis to reports or other publications will adhere to the UK Government Statistical Service guidance for Statistical Disclosure Control².

2.4.2.4 *Access Control*

Access to the **Microsoft Forms** can be restricted to specific individuals by email address. Data will be stored on University Servers, and only related members of staff will be able to have access to the data during the analysis phase of the project.

2.4.3 Access, Data Sharing and ReUse

Use of the transferred data will be for the purpose set out in the Data Sharing Agreement, which includes delivery of the current evaluation work of the ED program.

It is understood that outputs of the collaboration will be part of one or more academic publications in the future, and that the University of Essex academics can do so as appropriate subject to inclusion of any tables/graphs outputs of the data analysis to academic publications will need to adhere to the UK Government Statistical Service guidance for Statistical Disclosure Control.

The University of Essex staff will be submitting a copy of the publication to ECC for information purposes.

2.4.4 Short Term Storage and Data Management

2.4.4.1 *Data Backups*

Online Survey Data (Microsoft Forms) is usually stored and backed up in the cloud, and can be exported to various formats. Once the data collection process is completed, data can be downloaded for offline use and further data analysis.

Data stored on University of Essex servers, are normally backed up 5 times a day (at 8am, 11am, 2pm, 5pm and 8pm). The IT service keeps 2 days’ worth of backups for the 8am to

² Available from <https://gss.civilservice.gov.uk/statistics/methodology-2/statistical-disclosure-control/>.

5pm runs and then 3 months' worth of backups for the 8pm run. At the end of the month, a copy is stored on tape media and kept for 2 years (so that data can be recovered from the last 24 months at a monthly level).

Data backups are stored physically away from the main servers following standard industry standards.

2.4.4.2 Data Storage

Online Survey Data using Microsoft Forms for EU-based accounts are stored on servers in Europe³.

The rest of the data will be stored on University of Essex Servers for the duration of the analysis.

2.4.4.3 Data Security

Security for the exchange of information will be achieved through:

- Encryption of all portable devices to industry standard;
- Appropriately marking paper records (for example, "Official-Sensitive");
- Applying other appropriate secure technologies.
- limiting the handover of information to agreed individuals face to face
- assurance from partner organisations about the storage and use of information
- regular meeting regarding the outcome of analysis.

UoE/ECC staff receiving or sending information will:

- Ensure that their employees of appropriately trained to understand their responsibilities to maintain confidentiality and privacy;
- Protect the physical security of the shared information;
- Restrict access to data to those that require it, and take reasonable steps to ensure the reliability of employees who have access to data, for instance, ensuring that all staff have appropriate background checks'
- Maintain up to date policy available to all staff for handling personal data
- Have a process in place to handle any security incidents involving personal data, including notifying relevant third parties of any incidents

2.4.4.4 Data Transmission and Encryption

Data will be shared/transmitted via email (for non-official, non-sensitive data), secure email (for sensitive data), Encrypted memory stick (following the sector recommendations e.g. AES 256 or greater), or via a secure FTP site.

2.4.4.5 Data Destruction

Information will be retained in accordance with each partners' data retention policy and in any event no longer than is necessary.

If information is printed from an electronic system, it will be the partner's responsibility to dispose of the information in a secure manner e.g. cross head shredding or incineration, in line with each Partner's policies.

³ See the **Support Pages** for more information "Where is data stored for Microsoft Forms?"

3 Appendices

3.1 Abbreviations

BAU	Business as usual
BB	Basildon and Brentwood
BC	Business Case
CCG	Clinical Commissioning Group
CMA	Cabinet Member Action
CPR	Castle Point and Rochford
DA	Domestic Abuse
DA HDB	Domestic Abuse Housing Database
DBS	Disclosure and Barring Service
DPaRS	Data Sharing Platform and Risk Stratification Tool
ECC	Essex County Council
ECFRS	Essex County Fire & Rescue Service
ED	Essex Data
EP	Essex Police
EPB	Essex Police Board?
GDP	Gross Domestic Product
GP	General Practitioner
IDVA	Independent Domestic Violence Advocates
IRIS	Integrated Records Information System
I&I	Insight and Intelligence, ECC
IT	Information Technology
ITT	Invitation to Tender
JDATT	Joint Domestic Abuse Triage Team
MARAC	Multi-Agency Risk Assessment Conference
NA	not applicable
NE	North East Essex
NK	not known

PAM	Patient Activation Measures
PDSA	Plan-Do-Study-Act
PIP	Personal Independence Planners
PQQ	Pre-Qualification Questionnaire
PRMT	Predictive Risk Modelling Theory?
PSV	Parish Safety Volunteers
SP	Social Prescription
TCA	Transformation Challenge Award
UAT	User Acceptance Testing?
UCL	University College London
VCS	Voluntary Community Sector

4 References

(Reinhardt, Chatsiou & Ridler (2017a).

5 Notes

¹ source: "\\Essex Data DPaRS Tool\DPaRS Implementation Business Case v1.0.docx"

² source: "\\Essex Data DPaRS Tool\enc_TCA New Gens Bus case procurement v1.docx"

³ source: "\\Essex Data DPaRS Tool\enc_TCA New Gens Bus case procurement v1.docx"

⁴ source: "\\Essex Data DPaRS Tool\DPaRS Implementation Business Case v1.0.docx"

⁵ Breakdown of £131,000 costs for phase 1 are (source: "\\TCA evaluation\enc_TCA New Gens Bus case procurement v1.docx"):

Direct Estimated Costs for phase 1a	TCA funding over 1 year
Methods Analyst	£14,500
Project Management	£29,500
Other IS resources, incl. SaaS Technical teams Information governance and TDA	£39,000
Finance	£3,500
Legal	£13,500
TSU ProgrammeManager and support (tbc)	£30,000
Other	£1,000
Total	£131,000

Opportunity Costs Phase 1a	
Partners representation and contributions to the work program	£57,000
Total	£57,000

The budget request is for £131,000, this will account for the procurement and identification of the preferred supplier. The actual request is for £120,500 as we will retain the underspend of £10,500 from the previous phase.

The drawdown of the cost for the system and the implementation / integration will be presented once firm costs are known and the preferred supplier is identified.

The budget of £1.1m relates to the Phase 1, 1a and 2 and any on-going costs will need to be considered and the approach to be agreed during this phase.

Any change in demand relating to the systems identified in this phase will be included in the design of the overarching project system.

⁶ Breakdown of what is included in the £524,200 allocation of costs for Phase 2 of the programme is below (source: enc_DPARS Business Case Financials v4.1.xlsx)

Note The sums quoted in the business case (source: DPARS Implementation Business Case v1.0.docx) are wrong, the correct ones are below:

Data Collection & Data Management Plan: Evaluating the Essex Data Platform

Summary of the Funding Required to Support the Implementation and Operation of the DPaRS Tool Prototype Phase

	2016/17 £'000	2017/18 £'000	2018/19 £'000	Total £'000
Data Sharing and Risk Stratification Tool Contract Costs:				
One-off Implementation costs	70.0			70.0
On-going costs	47.5	95.0	47.5	190.0
Total Contract Cost for Prototype Period	117.5	95.0	47.5	260.0
Implementation resource costs:				
Programme Manager	35.8			35.8
IS Project Manager	26.4			26.4
IS and Information Governance	41.6			41.6
Provision for Partner costs for extraction, transformation and load of data	50.0			50.0
Other resources (legal, finance etc.)	4.8			4.8
Total Implementation resource costs	158.5			158.5
Contingency Risk	65.7			65.7
Insight for Innovation Procurement and Support	40.0			40.0
Total Funding Required for the DPaRS Implementation Phase	381.7	95.0	47.5	524.2

This request covers an estimate of £524,200 for this phase of the programme, amended to reflect an underspend of £2,800 from the previous phase.

- i. The award of contract for the implementation and operation of the Data Sharing Platform and Risk Stratification Tool ('DPaRS') for an initial period of two years at a value of £260,000.
- ii. Implementation and data resources required for the implementation in the sum of £158,500.
- iii. Procurement of services to undertake 'Insight for Innovation' analysis, in the sum of £40,000, which is required in conjunction with DPaRS outputs to deepen community understanding and improve commissioning decisions for the necessary solutions to deliver outcomes in the area of the prototype.
- iv. Contingency of £65,700 to cover any programmedelivery costs that can be reasonably expected to occur but unknown at this time. This currently includes dealing with possible delays to the implementation, securing any additional data that might be required or managing any one of the other program's key risks captured in Section 7.

The Board also agreed the contingency fund will be held separately from the main budget of the project with authority given to the Programme Sponsor, Richard Puleston, to approve its use should one or more of these risks materialise. Should part of or the entire contingency not be required, this must be returned back to the TCA fund or transferred for use on another project as directed by the TCA Steering Board.

⁷ Breakdown of £131,000 costs for phase 1 are (source: "\TCA evaluation\enc_TCA New Gens Bus case procurement v1.docx"):

Direct Estimated Costs for phase 1a	TCA funding over 1 year
Methods Analyst	£14,500
Project Management	£29,500
Other IS resources, incl. SaaS Technical teams Information governance and TDA	£39,000
Finance	£3,500
Legal	£13,500
TSU ProgrammeManager and support (tbc)	£30,000
Other	£1,000
Total	£131,000

Opportunity Costs Phase 1a	
Partners representation and contributions to the work program	£57,000
Total	£57,000

The budget request is for £131,000, this will account for the procurement and identification of the preferred supplier. The actual request is for £120,500 as we will retain the underspend of £10,500 from the previous phase.

The drawdown of the cost for the system and the implementation / integration will be presented once firm costs are known and the preferred supplier is identified.

The budget of £1.1m relates to the Phase 1, 1a and 2 and any on-going costs will need to be considered and the approach to be agreed during this phase.

Any change in demand relating to the systems identified in this phase will be included in the design of the overarching project system.

⁸ source: "\\Essex Data DPaRS Tool\DPaRS Implementation Business Case v1.0.docx"

⁹ source: "\\Essex Data DPaRS Tool\enc_TCA New Gens Bus case procurement v1.docx"

¹⁰ For Phase 1, no cashable benefits were envisaged at the time the business case was put together. Note that as this phase it was not envisaged that any cashable benefits could be realised - the intention was rather to progress with the procurement using the business and technical requirements which will fit with the preferred design. This phase will identify the preferred supplier with associated costs for agreement by the Steering board. (source: "\\TCA evaluation\enc_TCA New Gens Bus case procurement v1.docx")

¹¹ Cost savings of £20,649 calculated from the following figures (source: "\\Essex Data DPaRS Tool\Risk Stratification Costs and Benefits v1.210.xlsx").

Projection Costs and Savings from FIF Interventions:				
WITHOUT DPaRS insight				
Number of FIF Interventions	FIF Interventions costs	Reduction (50%) in Not School Ready FIF Interventions	Savings in School Readiness with FIF Interventions	Net Results: FIF intervention costs minus savings in school readiness due to FIF interventions
131	-£29,151	65	£68,830	£39,680
n_2	$n_1 - (n_1) \times (50\%)$	$n_1 - (n_1) \times (50\%)$	$n_1 - (n_1) \times (50\%)$	$(n_1) - (n_2)$
WITH DPaRS insight				
Number of FIF Interventions	FIF Interventions costs	Reduction (85%) in Not School Ready FIF Interventions	Savings in School Readiness with FIF Interventions	Net Results: FIF intervention costs minus savings in school readiness due to FIF interventions
131	-£29,151	85	£89,479.52	£60,329
n_2	$n_1 - (n_1) \times (15\%)$	$n_1 - (n_1) \times (85\%)$	$n_1 - (n_1) \times (15\%)$	$(n_1) - (n_2)$

The intervention projections are calculated for 65 children not school ready in the Ward of Vange (estimated), 131 estimated Family Innovation Fund (FIF) interventions based on the Essex Poverty Levels. It is profiled for 65 FIF interventions deemed to be successful in Vange without Essex Data (50%) and 85 FIF interventions deemed successful in the same area with Essex Data (65%). Numbers assume:

- There are 812 children under 5 years of age in the Ward of Vange as the comparison group
- The poverty rate in the area is 16.1% (ECC Figures 2016)
- The cost of getting a child school ready is £1,053 (based on the New Economy Model (1.4))
- The cost of a FIF intervention is £223 (2016 Estimated Costs)

Note: FIF figures have been used to provide a baseline reference to help demonstrate how the availability of additional insight, The ED tool will provide could help increase the effectiveness of interventions. The Family Innovation Fund enables (ECC) to work with its partners in the voluntary and community sector to offer early help and support children, young people and adults. This includes parenting support, counselling and mediation, coaching and mentoring, and the identification of risky behaviours. The projects in the FIF complement existing work going on with families with additional needs to increase their stability and resilience and where possible prevent the need for specialist or intensive interventions.

¹² Source: "\\Parish Safety Volunteers\Revised PSV financial benefits summary - March 2017.xlsx"

Data Collection & Data Management Plan: Evaluating the Essex Data Platform

¹³ Cost savings of £20,649 calculated from the following figures (source: "\Essex Data DPaRS Tool\Risk Stratification Costs and Benefits v1.210.xlsx").

Projection Costs and Savings from FIF Interventions:				
WITHOUT DPaRS insight				
Number of FIF Interventions	FIF Interventions costs	Reduction (50%) in Not School Ready FIF Interventions	Savings in School Readiness with FIF Interventions	Net Results: FIF intervention costs minus savings in school readiness due to FIF interventions
131	-£29,151	65	£68,830	£39,680
<small>n₂</small>	<small>n₁ = (n₂) x (1/2)</small>	<small>n₃ = n₂ x 0.50</small>	<small>n₄ = (n₃) x (1/1)</small>	<small>(n₄) - (n₁)</small>
WITH DPaRS insight				
Number of FIF Interventions	FIF Interventions costs	Reduction (65%) in Not School Ready FIF Interventions	Savings in School Readiness with FIF Interventions	Net Results: FIF intervention costs minus savings in school readiness due to FIF interventions
131	-£29,151	85	£89,479.52	£60,329
<small>n₂</small>	<small>n₁ = (n₂) x (1/2)</small>	<small>n₃ = n₂ x 0.65</small>	<small>n₄ = (n₃) x (1/1)</small>	<small>(n₄) - (n₁)</small>

The intervention projections are calculated for 65 children not school ready in the Ward of Vange (estimated), 131 estimated Family Innovation Fund (FIF) interventions based on the Essex Poverty Levels. It is profiled for 65 FIF interventions deemed to be successful in Vange without Essex Data (50%) and 85 FIF interventions deemed successful in the same area with Essex Data (65%). Numbers assume:

- There are 812 children under 5 years of age in the Ward of Vange as the comparison group
- The poverty rate in the area is 16.1% (ECC Figures 2016)
- The cost of getting a child school ready is £1,053 (based on the New Economy Model (1.4))
- The cost of a FIF intervention is £223 (2016 Estimated Costs)

Note: FIF figures have been used to provide a baseline reference to help demonstrate how the availability of additional insight, The ED tool will provide could help increase the effectiveness of interventions. The Family Innovation Fund enables (ECC) to work with its partners in the voluntary and community sector to offer early help and support children, young people and adults. This includes parenting support, counselling and mediation, coaching and mentoring, and the identification of risky behaviours. The projects in the FIF complement existing work going on with families with additional needs to increase their stability and resilience and where possible prevent the need for specialist or intensive interventions.

¹⁴ Net computed as (£0 – £131,000) = -£131,000.

¹⁵ Net computed as (£20,649 – £655,200) = -£634,551.

Impact	Cost avoidance	Units (£)	total @ end of year three
Increased availability of live data to partners	* Reduction in referral to refuges and the need to relocate victims. * Increased early intervention services available to support victims and families	Expected Activity Profile	£115
		Avoidances based on management moves and mutual exchanges	£47
		Voids minimised saving	£117,500
		Homeless applications saving	£122,905
Voids minimised through planned moves	£2500 per property	£2,500	£287,500
Homeless Applications	£2615 per application	£2,615	£300,725
		Avoidances based on security improvements only	£166
		Creating new social tenancy saving	£79,182

Creating new social tenancies	£477 per new social housing tenancy - assumed total activity less the 1 for private tenancies would be social housing	£477	£50,562
Total			£638,787

The following are totals with or without various options and improvements:

Total (excluding housing options and advice)	£319,587
Security improvements and managed moves total	£213
Cost saving with security improvements and managed moves as multiplier	£1,191,096

Figures are based on a reworked financial model produced by Intelligence and Insights, ECC, and include data to inform a benefits target with actual data from the Housing database (Charlotte Cannon, pc 19/04/2017). While the included cost avoidance figures are reported with a level of confidence, it is likely that should the database be implemented wider over the duration of the project, more financial benefits may be realised overall.

¹⁶ Net computed as (£666,348 - £1,000,000) = -£333,652.

¹⁷ source: "\\Essex Data DPaRS Tool\DPaRS Implementation Business Case v1.0.docx"