Federated Data Platform

Engagement Pack

The FDP has been borne out of a need for connected data and information to make informed decisions

Situation	The NHS is under massive operational pressure and each part of the ecosystem operates with different systems that often can't talk to each other. This means we have lots of operational hand-offs within and between organisations and a difficulty in provision of high quality information to streamline workflow and enable data driven timely decision making.
Complication	This makes it hard for health and care organisations to work together to understand patterns, solve problems, plan services for local populations and ultimately to deliver better care for the people they serve.
Question(s)	Can we design a technical solution – using lessons learned from our COVID-19 response – that brings information together to transform the way our workforce use data to support and plan care? And can we do this in a way that reduces the burden on local providers and frees up more clinical time to care?

A federated data platform…

Software which will ‘sit on top of’ existing IT systems and connect them, making it easier for staff to access the information they need in one safe and secure environment so that they are better able to coordinate, plan and deliver high quality care.

This software will be ‘federated’ across the NHS. This means that Providers and ICBs will have their own platforms which can connect and collaborate with other platforms as a “federation” – making it easier for health and care organisations to work together.

A digitised, connected NHS can deliver services more effectively and efficiently, with people at the centre.

***ICSs** will have the insights they need to proactively plan services around people’s needs and coordinate care across the services in their geography.*

***Trust** staff will be able to access the information they need – in one secure place – freeing up time spent on administrative tasks and enabling them to deliver the most appropriate care for each patient.*

***Patients** will have more flexibility and choice about how and where they access services and receive care helping them stay healthy for longer.*

Our vision and five target outcomes

Vision	**Connecting the NHS to transform care and improve outcomes for patients**				
Target outcomes	Frontline staff have the information they need to provide the best possible care for patients	Population Health management - putting patients and citizens at the centre of service design	ICSs are able to effectively coordinate care	The NHS has access to the information it needs to undertake strategic and operational planning	There is increased transparency and patient understanding of how data is used positively
What it will mean	“I have access to the information I need – in one place – enabling me to deliver the most appropriate care for each patient”	“I have the insights I need to proactively plan services around the peoples needs – which they can access when and where they need them”	“I have the information I need to proactively coordinate care”	“I understand where the NHS needs to invest in workforce and capacity, and can negotiate better deals”	“I support and trust where my data is being used for my care and the benefits of others”

The FDP will be a critical enabler of our plan for digital health and social care

Digitise

Level up all NHS and social care services to ensure they have the same defined core infrastructure and a minimum level of digitisation

- Digital Maternity
- Digital Nursing
- Digital Connectivity
- Shared Care Records
- Frontline Digitisation
- Supporting people at home

Connect

Join services together through technology, allowing health and care providers to share information with one another and take a shared approach to procurement and implementation.

- Federated Data Platform
- Data Safe Haven
- Data Capabilities
- Who Does What
- Interoperability
- Spine Futures
- Faster Data Flows

Transform

Utilising a digitised, interoperable, connected health and care system to deliver services more effectively and productively, and with the citizen at the centre.

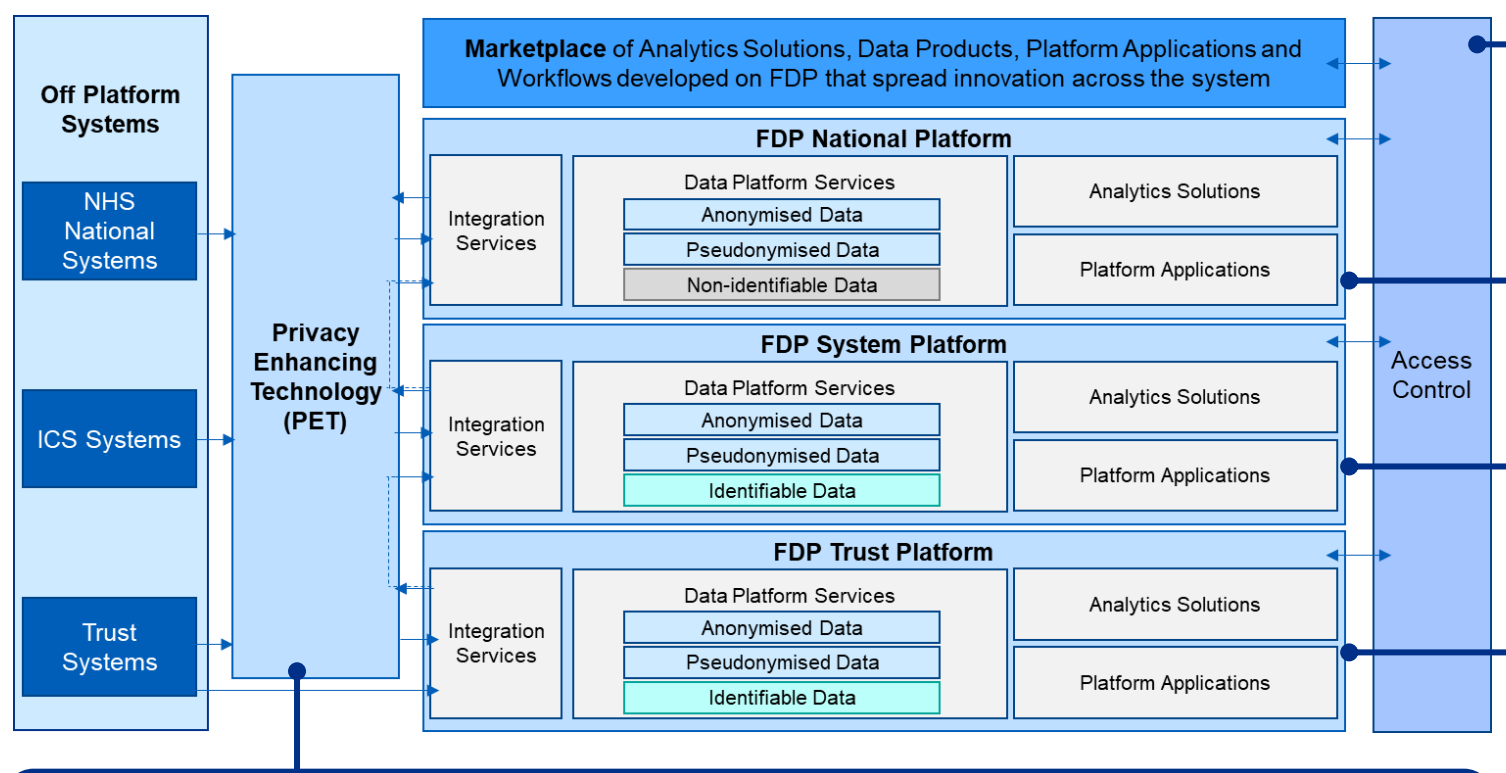
- Population Health Management
- Digital Primary Care
- Pathways Transformation
- NHS App
- Outpatients Programme
- Ambulance and UEC Services

Enterprise Architecture

Professionalisation of digital, data and analytical workforce

How will it work in practice?

Federation means that each Trust and ICS has their own platform for which they are the data controller.



Only authorised users will be granted access to information for approved purposes.

Access for each platform will be governed and managed by each individual organisation (data controller).

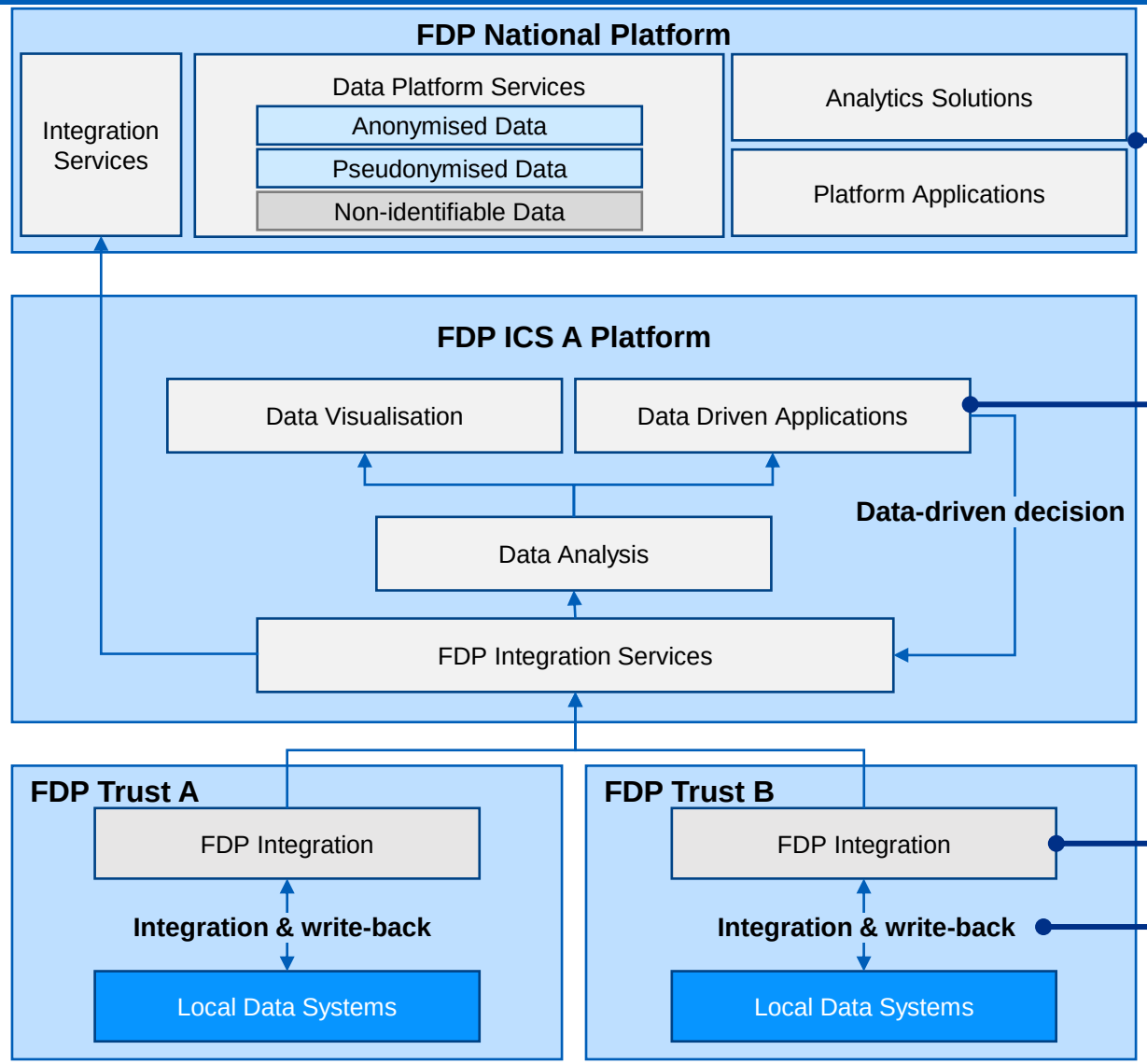
Trust and system platforms will be able to interact with one another (where appropriate).

Trust and system platforms will also interact with a national NHS England platform for reporting purposes.

Privacy Enhancing Technology (PET) will be a standalone service that discovers, protects and supports the audit and governance of data uses. PET will enable the sharing of data in alignment with the security and privacy constructs defined by information governance requirements.

It will be a critical operational tool

Example flow:



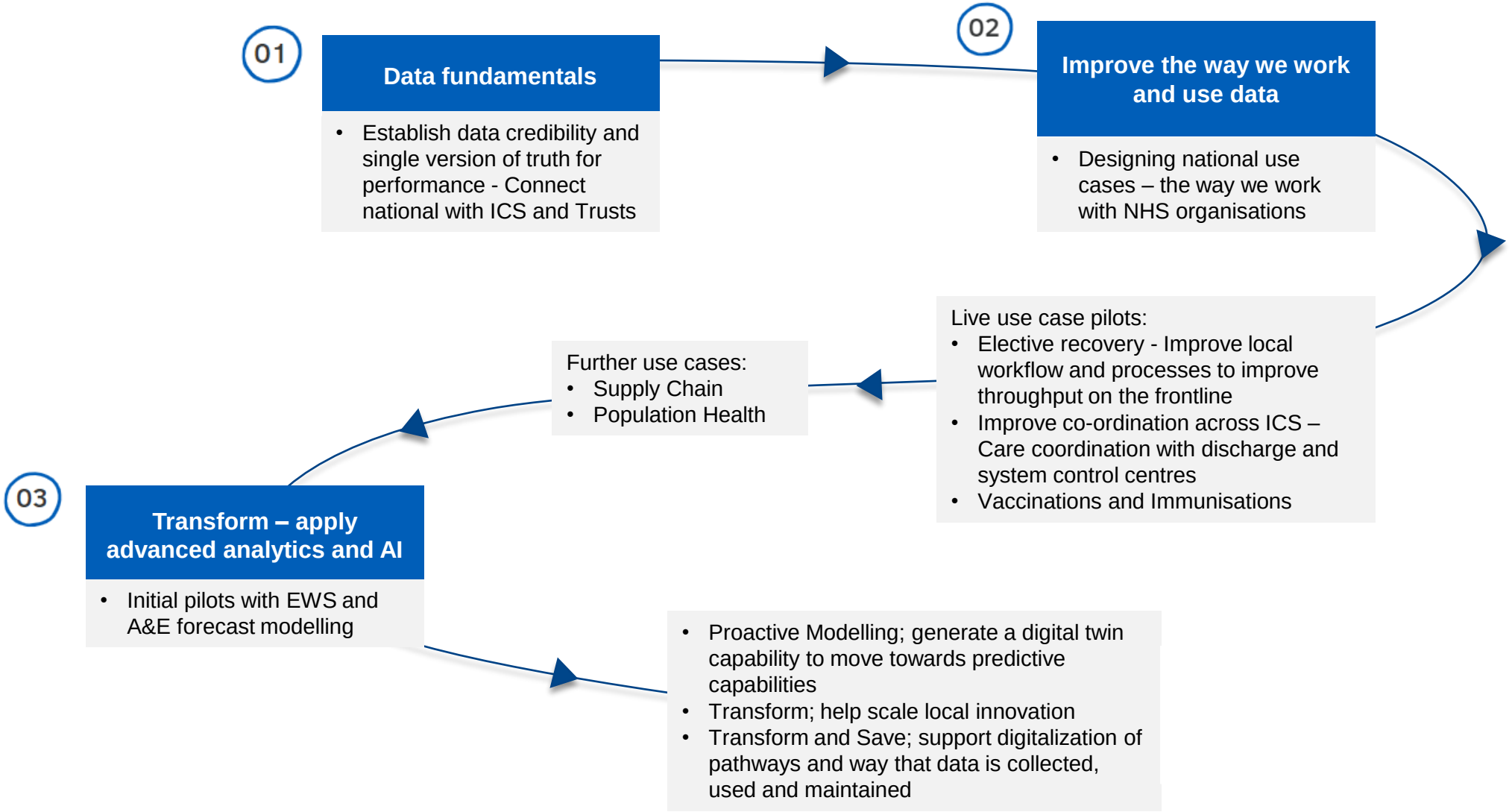
The federated data platform will accelerate the move from traditional data analytics, to the development of ***dynamic, intelligent, data driven systems***.

- Develop powerful data driven applications
- Consistent, rapid, reliable data feeds
- Real time decision making
- Process automation

Consistent data structures developed in collaboration with clinical staff are key to creating ***simplified, repeatable, scalable integrations***.

The program will develop a catalogue of major two-way vendor integrations to expedite data extraction and data write-back.

What capability are we trying to establish?



The FDP will provide Trusts and ICSs with some common functionality as well as national solutions

The common functionality will include:

- **Data Processing**, e.g. Cleansing, ML, NLP, Data Enrichment
- **Integration Services**, e.g. PET Integration
- **Data Repositories**, e.g. Data Lake, Enterprise Data Warehouse
- **Platform Applications**, e.g. Brokering, Cohorting, Scheduling

Initially the national solutions will focus on five key NHS priorities:

1. (1) Population health and person insight
2. (2) Care coordination
3. (3) Supply chain
4. (4) Vaccination and immunisation
5. (5) Elective recovery

→ *…Overtime as the platform develops additional functionality and national solutions may be added*

The federated data platforms and national solutions will complement and **work with existing systems**

Trusts and ICSs can **opt to use national tools** and **solutions**
+
They will also have the option to **build bespoke solutions** to address their **own operational challenges** using the common functionality

A key aim of the programme is to enable the **rapid scaling** and **sharing of solutions that have been developed at a local level** in a secure way supporting levelling up and reducing variation across the NHS in England.

A locally developed solution → (Following a QA process / can be made available) → via the federated data platform → (To other organisations / with similar challenges) → Other NHS organisations

Several solutions are live and already delivering benefits

The nationally funded solutions focus on five key NHS priorities:

(1) Population health and person insight	(2) Care coordination	(3) Supply chain	(4) Vaccination and immunisation	(5) Elective recovery

FDP Solutions

Live

Faster Data Flows (*enabler)*				
Health Inequalities Dashboard	ICS Summary Dashboard	Supply Chain 360	Hourly and Validated Vaccination Events	Recovery of Critical Services
Strategic Planning Tool	Recovery Dashboards (e.g. Timely Care Hub)	Equipment Stock Take (PPE)	Vaccination Site Readiness	A&E Forecasting and Early Warning System
PaPI Dashboard	Discharge pathways model (e.g. OPTICA)		Vaccination Equalities	Trust Care Coordination Solution
			Flu Workforce Planning and Management	
	Virtual Wards (MVP)			

In development

Population Health	Elective Care Hubs	Inventory Management		

✕		Anticipatory Care	NETIS	NIMMS (flu vaccines)

Sites across England are piloting solutions that support elective recovery and care coordination

The Trust Care Coordination Solution is helping Trusts to treat patients faster and in the right order…

It flags waitlist errors to ensure those on the list are 'true waiters'. **Countess of Chester has flagged for removal 30% of their waitlist through Trust CCS validation alone.**

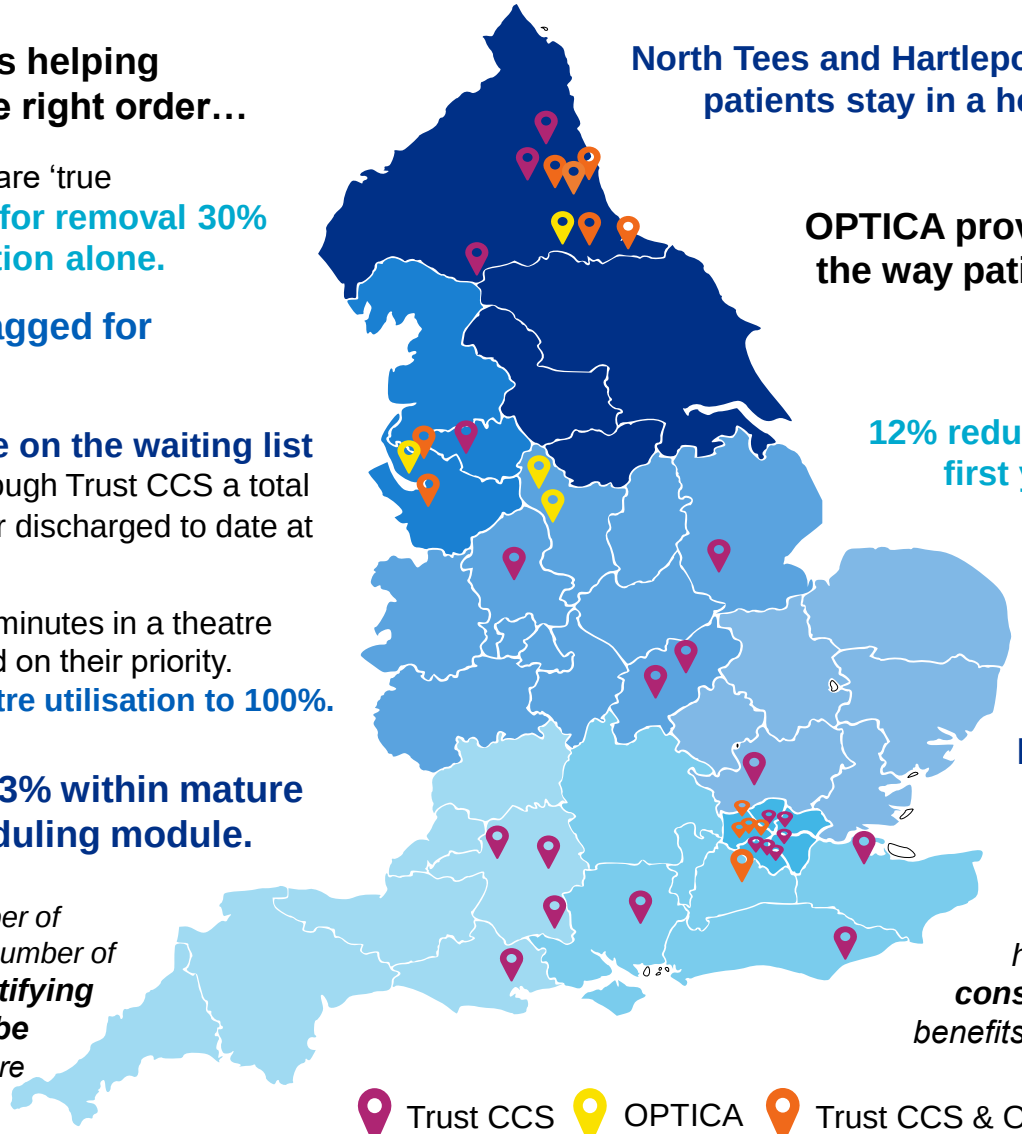
A total of 39,690 patients have been flagged for investigation from waitlists.

Clinicians can tell patients where they are on the waiting list and easily reprioritise them where required. Through Trust CCS a total of **3507 patients have been reprioritised** or discharged to date at Chelsea and Westminster.

Trust CCS calculates the number of un-booked minutes in a theatre session and 'suggests' patients to fill gaps based on their priority. **Booking requests can be made to bring theatre utilisation to 100%.**

Theatre Utilisation has increased by 6.3% within mature trusts actively using the Theatre Scheduling module.

Trust executive: '*Our priority is reducing the number of patients on the waitlist who are breeching a certain number of weeks**. Trust CCS has been invaluable in identifying slots that we previously didn't realise could be utilised**. As a result, we've been able to book in more procedures and reduce our priority waitlists faster'.*



North Tees and Hartlepool NHS Foundation Trust has seen 50% fewer patients stay in a hospital bed for 21 days or more in comparison with the average in England.

OPTICA provides a blueprint to help the NHS manage the way patients are discharged, freeing up beds for those in most need…

Increased timeliness of discharge for patients **12% reduction in long length of stay patients within the first year compared with a 41% increase nationally.**

Improved patient flow at North Tees and Hartlepool NHS Trust has improved bed utilisation which has enabled them to **support medical diverts from other Trusts in the area.**

Nine hours 20 minutes per week have been realised in clinical time for trust staff.

Clinical care coordinator: *'We've always worked closely with our local authorities but the fact they have access to OPTICA means **we all have a single, consistent source of information we can rely on** – that benefits us as a trust and the wider health and care system'.*

Data as of 13 April 2023

Testimonials

Doug Gurr
Chair of the British Heart Foundation, NED at DHSC

"Delivering the right data, at the right time, to the right people at every level of our health service will be fundamental to improving patient outcomes and the working life of everyone in the healthcare system. It's great to see the progress towards a federated data platform that which be a foundational building block to enable the NHS to deliver this in a safe, secure way that protects patient privacy whilst still delivering all the medical benefits."

Bruno Botelho
Deputy Chief Operating Officer & Director of Digital Operations at Chelsea and Westminster NHS Trust

"We've been using the Care Coordination Solution for several months now and it has been extremely valuable in helping us to visualise our entire waitlist and support the delivery of our Elective programme.

An ever-growing number of our consultants and support teams are using the solution to manage their waiting lists and help us improve our theatre throughput. It's putting all the information they need to prioritise a patient, book them for surgery and manage pre-assessment in one place - saving them time and reassuring them they are seeing their patients quickly and in the right order."

Stacey Rutter
Clinical care Coordinator at North Tees and Hartlepool NHS Foundation Trust and its Clinical Lead for OPTICA

"OPTICA has made a huge difference to the way we manage our discharge process. From a clinical perspective, it gives us greater confidence in understanding what's happening in the hospital, who's in the hospital and where are they in their discharge journey.

As OPTICA provides a real time picture, we can quickly identify potential blockages that could delay a patient returning home and work with local authority colleagues to find a solution – this saves them spending longer in hospital than they need to and ensures they are discharged at the right time to the right place, with the right support in place. As well as reducing the risk of deconditioning, associated with a long hospital admission, by supporting the patient's recovery in the most suitable environment we would aim to reduce their dependency on social care."

Candace Clarke
Head of Performance and Data Quality, Previously Chelsea and Westminster NHS Trust

"The engagement with the clinicians is one of the most enjoyable parts for me… seeing the solution come to life so we focus on data led decision making.

Quantitatively, we have been able to validate over 60% of our inpatient waitlist and identify patients who were genuinely waiting. We've reviewed over 13,000 pathways and brought our waiting list down by 44%.

We have helped so many patients and the solution has already begun to show process improvement and time saving efficiencies that ultimately provide patients with a better experience and access to the care they need."

Zoe McDowall
Theatre Manager, The Hillingdon Hospitals NHS Trust

"I think the solution is brilliant... We used to work with a spreadsheet and one of my team would have to manually update this and validate it every day, this would take about 2-3 hours. The only way to see how many patients have booked and what theatres are over or underutilised was to manually look through the spreadsheet.

There were so many issues with this... For example, consultants annual leave was emailed to the team, and this would have to be manually inputted. This leaves lots of room for error.

Within the first month of using the solution our utilisation increased by 7% and then by another 1% the following month.

My team now only need to validate the solution once a week before the meeting. This allows them the time to focus on data quality which is what they should be doing."

The Faster Data Flows programme sits alongside to provide timely, high quality data

The aim of **Faster Data Flows** is to implement an **automated daily data collection**, providing the NHS with a **modern data architecture** that provides timely, high quality data whilst **reducing the reporting burden on providers**.

The initial scope of work will focus on the collection of core data items for current inpatients, admissions, discharges and outpatients.

As outlined in the *Priorities and Operational Planning Guidance for 2023/24*.

Key aims

Reduce the reporting burden on providers by deriving metrics through this flow and stopping/reducing duplicate collections

Support systems with elective recovery, individual care co-ordination and identifying pressures before crisis to provide support by providing a daily flow of data

Provide tools, dashboards and data to support collaborative working for local care planning

Establish the foundations for a close to real-time view on elective recovery and other pressure areas

Benefits

Providers

- ✓ Manual SitReps replaced by automated daily flows
- ✓ Management Information available to trusts via NHS Data Platform to support planning
- ✓ Sharing close to real time information provides the ability to support local care planning
- ✓ Streamlined approach for future data collection
- ✓ Patient pathway visible through data flow through tools and dashboards

Systems

- ✓ Close to real time hospital activity data for response and recovery planning
- ✓ Harnessing technology already procured
- ✓ Providing tools to the NHS to encourage collaborative working
- ✓ Implementing an innovative approach to data collection
- ✓ Provide historic and planned activity data for a full view of capacity

How to implement

Submission process: The submission process can be fully automated, (example scripts provided) and requires providers to generate CSV files and submit them to an API via secure upload. You will require tokens in order to submit data. The data is then processed and pseudonymised by GEM DSCRO before it flows into the NHS National Data Platform.

How to implement: To implement you will need the specifications for each collection, to generate CSV files, and to request tokens. All onboarding and technical guidance is available via the FDF FutureNHS page. If you are unable to implement FDF please contact the Programme Team with your support requirements.

Contact details: Contact the FDF Programme Team on england.fdf@nhs.net for further support. All specifications, implementation guidance, and supporting documentation is available on the FDF FutureNHS page. Contact the AGEM service desk Foundry.support@england.nhs.uk to request tokens and for support with the National Data Platform.

The FDP will support multiple adoption patterns tailored to the needs of ICSs

We have developed a set of four integration patterns ranging from a common data connection data pipeline to full adoption of the FDP. We expect all Trusts or ICS to fall in accordance with the integration patterns, dependant on use case.

	Pattern 1 De-centralised		Pattern 2 De-centralised with common tools		Pattern 3 Federated with custom analytics		Pattern 4 Federated with nationally provisioned support	
Capabilities / Services	ICS Provisioned Infrastructure	Nationally Provisioned Infrastructure	ICS Provisioned Infrastructure	Nationally Provisioned Infrastructure	ICS Provisioned Infrastructure	Nationally Provisioned Infrastructure	ICS Provisioned Infrastructure	Nationally Provisioned Infrastructure
Data ingestion	X		X	X		X		X
Data storage	X		X	X		X		X
Indicative common analytics services	X			X		X		X
Local analytics and innovation	X		X	X		X		
National Reporting	X			NA - automated		NA - automated		NA - automated
Research	X		X	X		X		X
Data sharing and augmentation		X		X		X		X

We have developed an interactive Data Navigator

Overview

The Data Navigator is an interactive application allowing you to **view** analytics products and solutions that will be available on the future federated data platform, **document** your existing data and analytics initiatives, **define** how and where you will adopt products and solutions on the platform, and **share** your learnings and capabilities with other teams across the NHS.

Mission Statement

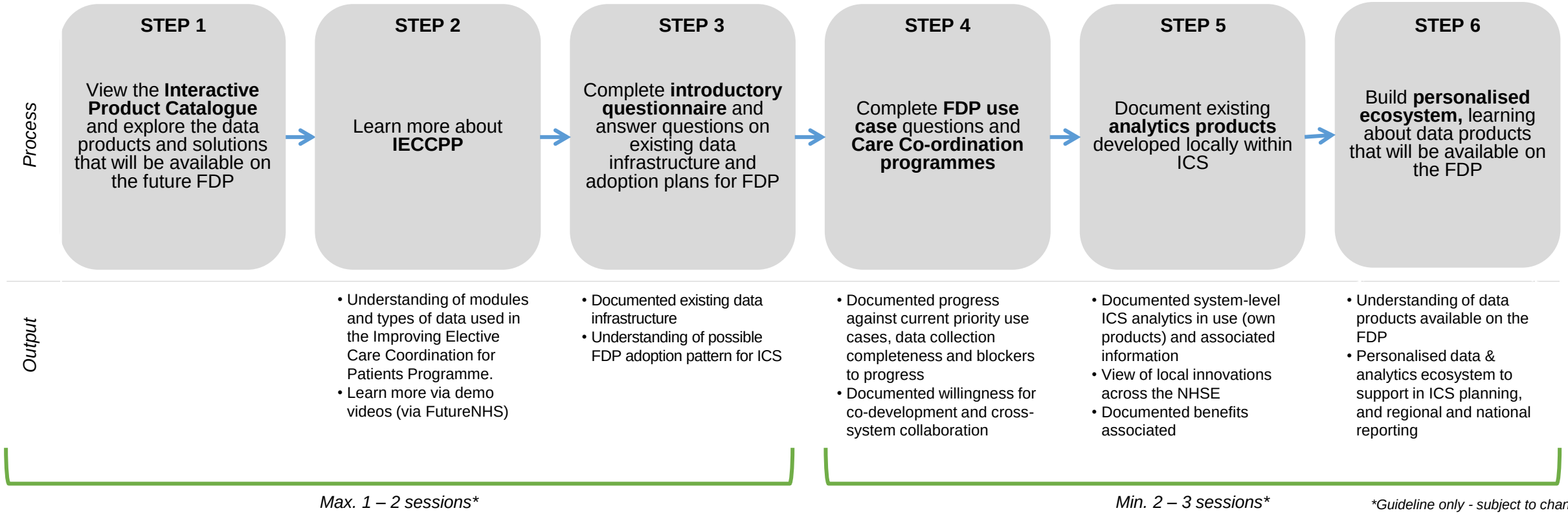
The Data Navigator will be a single pane of glass for you to understand how your current analytics investment and aspirations can be integrated with or fulfilled using the future federated data platform.

Aim

- Transition from siloed working practices to **joined up approaches to analytics**, making it easy to identify and pursue opportunities for collaboration through transparency, communication and reporting.
- **Empower local voices** to drive the product design and pipeline for analytics products and solutions on the future FDP.
- **Accelerate** the rollout of proven analytic products and solutions to enable your to deliver on your ICS's priorities and objectives.

ICSs will be guided through the Data Navigator completion process via a 6-step process

Data Navigator supports in transforming the way in which analytics products are delivered across the NHS, and helps you unlock meaningful benefits across the FDP, enabling ICSs to champion data and analytics activities.



For more information and to register interest in completing the **Data Navigator** tool, please reach out to: **england.fdp@nhs.net**

An ecosystem of technology and services, procured in four stages

The contract notice and standard selection questionnaire was published on 10 January 2023.

On 21 February 2023, stage 2 of the procurement launched. This means that participants in the procurement who passed the selection questionnaire now have access to the Invitation to Competitive Dialogue (ITCD) documents.

We are working towards Summer 2023 for the contract award.

Procurement 1

Data platform (SaaS)

The FDP itself, with ICS integration: to design, support, and enable a shared ontology through which NHS organisations can be connected, so that FDP users can have access to applications to support planning, direct care, population health management or research, whilst supporting each NHS organisation's IG responsibilities.

Procurement 2

Privacy-enhancing technology

Privacy Enhancing Technology (PET) will be a standalone service that discovers, protects and supports the audit and governance of data uses. PET will enable the sharing of data in alignment with the security and privacy constructs defined by information governance requirements.

Procurement 3

Marketplace that enables application release and management

Drive the development of a 'market' for applications from multiple suppliers – accelerating development and adoption of best-in-class operational tools across the NHS, and thereby reducing duplication in development effort across suppliers.

Operational tools that enable marketplace application release and management: to monitor and optimise the marketplace platform to meet the changing demands of the service.

Procurement 4

Training, deployment support, and implementation

Training and deployment support: to facilitate user uptake and adoption by offering training to users, thereby providing a comprehensive support model and service wrapper.

Appendices:

1. Benefits personas
2. Common functionality
3. Key capabilities
4. National solutions in development *coming soon*
5. Procurement approach
6. Privacy and Transparency approach
7. Security approach
8. Technology approach
9. FDP vs TRE – SDE explainer

What this means for....

ICS Leadership

- Highlights where they need to invest in workforce and capacity and provides the insights to negotiate better deals.
- Better insights to proactively coordinate care across organisational boundaries.
- Better insights to proactively plan services around their population's needs – which they can access when and where they need them.
- The consolidation of data will give a more comprehensive and detailed understanding of their populations to tackle health inequalities.
- Enables rapid scaling and sharing of innovations between trusts, that meets a common set of high standards.

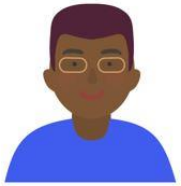
Local Data and Analytics Teams

- A single system.
- Auditable trail of data to replace manual sitreps.
- Single source of the truth.
- The consolidation of data will give a more comprehensive and detailed understanding of their populations to tackle health inequalities.
- Reliability of data near real time.
- Freeing teams to focus on value add analysis / interventions / other priorities.

National and Regional Teams

- Aggregates a current fragmented data architecture landscape and connects a multitude of data sources and aggregation platforms.
- Reduces reporting burden on local systems and organisations.
- Provides more accurate and real time information to inform strategic and operational planning.
- Allows analysis to increase supply chain efficiency or inform national policy.
- Allows timely payments to be made to hospitals for treatments.
- Allows innovation to be scaled and spread through the system for continuous improvement.

What this means for....



Patients

- Less time waiting for treatment.
- Better quality of care.
- Better choice of and access to services.

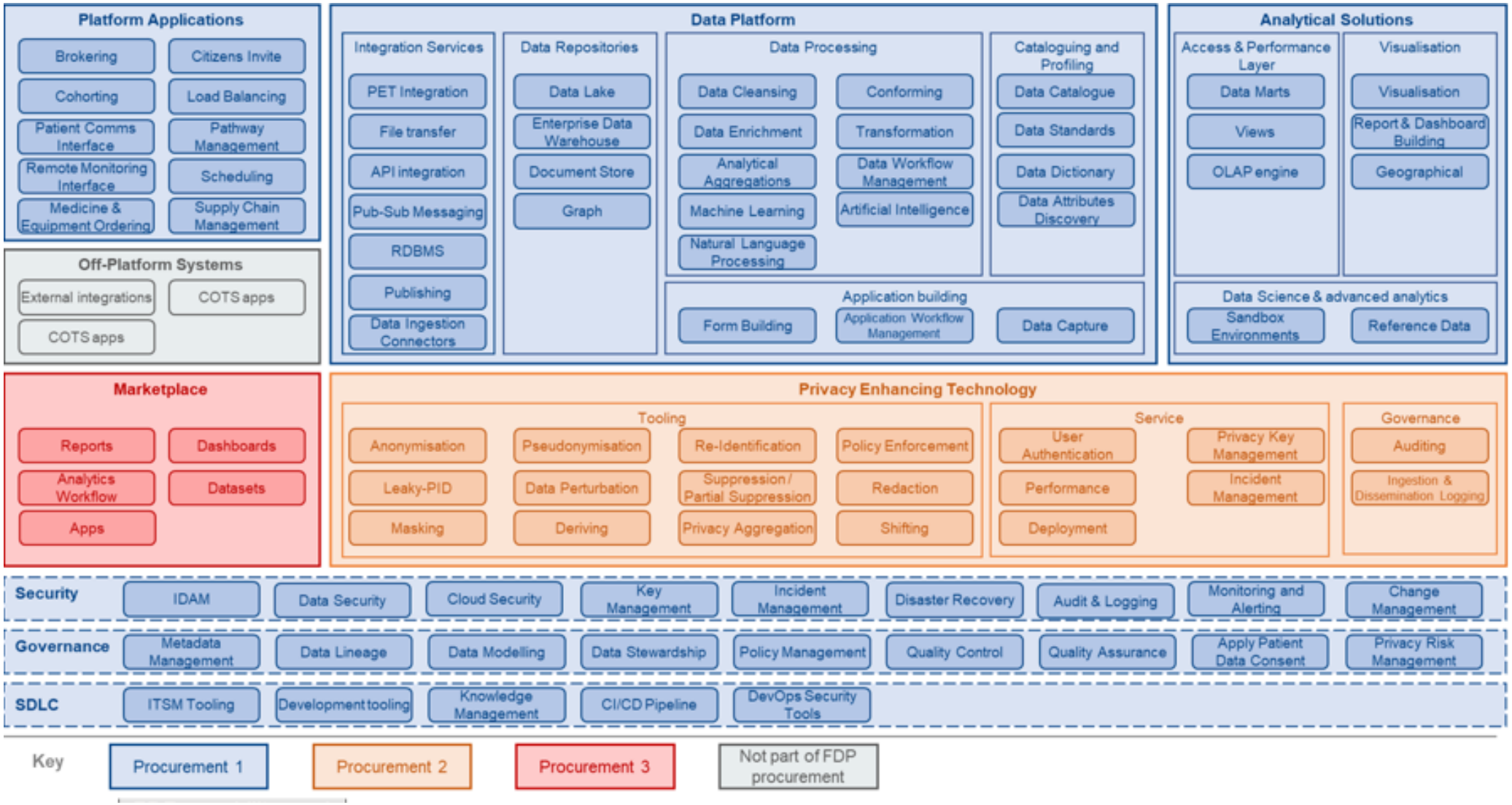
Clinical Staff

- A reduction in manual processes.
- A better visibility of the data, with more opportunity to query it, which improves the quality.
- Faster access to the data, with more responsive information, that flags trends or anomalies more effectively.
- An improved ability to manage and prioritise their own patients effectively and more holistically.
- Can audit data – understand how we managed things in the past (good + bad learnings).
- Improved quality of life and experience (can access the platform on the phone and plan their care remotely).

Trust Management

- Improved data capture and quality, and near real-time understanding of their operational picture for decision making.
- Have clear visibility of where patients are on their pathways and can minimise delays in discharges.
- Are proactively alerted of pinch points and problem areas.
- Have access to data and information to undertake strategic and operational planning.
- Have accurate estimates of their workforce supply and anticipated demand for services.
- Can drill down to understand the costs on inefficiencies and opportunities.

Overview of common functionality



The use case solutions will be underpinned by 13 platform applications

Category	Link to four uses of data	Use case	Customer	Description	Indicative capabilities
Population Health	2, 3, 4	Population health and person insight	National	• Providing data and segmentation tools to enable population health management locally • Linking between datasets to drive population insight	Segmentation models, population opportunity analysis based on need, population cohorting, variation in outcomes
	1, 2, 3, 4	Vaccination and immunisation	National	• Real time information to support supply and workforce planning and operational decision making • Monitoring and supporting intervention around equality of immunisation and vaccination programmes	Medicines and equipment ordering, population cohorting, reporting for immunisation and screening
Care Coordination	1, 3, 4	Elective recovery	Trust	• Improving workflow and transparency around waiting list management • Single tool to manage the backlog and maximise utilisation of existing capacity	Waiting list cleansing and management, theatre scheduling and optimisation, outpatient management, patient comms and scheduling, pre-op management
	1, 3, 4	Care coordination	ICS	• Enabling ICSs to optimise end-to-end services for patients, understanding capacity across whole system • Focus on organisational interfaces (e.g. virtual wards, anticipatory care and discharges)	Anticipatory care, discharge coordination, care coordination centres, virtual wards
Service Delivery	1, 2, 3	Supply chain	National	• Aligning supply and demand • Increasing visibility of where stock is needed to optimise management of the supply chain • Spend analysis to drive value	Load balancing, supply chain data cleansing, supply chain management, medicines and equipment ordering

Key – alignment to four uses of data: 1 *Direct care* 2 *Population health and proactive care* 3 *Planning, oversight and service improvement* 4 *Research and innovation – will be supported via link to TRE*

The four uses of NHS data underpin our approach

	Uses of data	Examples [alignment to aims/outcomes]	User Types	Access and Latency	Data Types
1	**Direct Care**	*E.g. safe cross-organisation care delivery (including beyond ICS boundary)* [improved patient safety, effectiveness, productivity, experience]	• Clinical and care staff • Citizens	• Real-time, read/write access • Identifiable data required	• **Linked event-based patient record** • Past/future appointments/pathway info • Plans, communications, safeguarding etc.
2	**Population health and proactive care**	*E.g. Screening/Prevention, Case finding, Proactive care, Decision Support, Outcomes evaluation* [improved population health/ effectiveness, reduced health inequality]	• Authorised health and care staff	• Daily / real time updates • Identifiable data required by authorised staff to enable direct care (ICS level users and below e.g. place, provider)	• **Aggregated linked patient records** (clinical, demographic, wider social determinants, 'omic, outcomes) • Provider/Place/workforce data
3	**Planning, oversight and service improvement (NHS/care and non-NHS)**	*E.g. Capacity and demand management, health inequality insight, performance management (safety, quality, experience), workforce planning, financial MI/contracting* [improved patient safety, productivity]	• NHS/care: Authorised health and care staff incl. local authorities • Non-NHS: Public, other ALB users e.g. CQC, other gov depts	• Weekly -> hourly updates (depending on criticality of action) • Must not be identifiable • Must have clear principles for what level of sharing is appropriate to whom, including for open data / dashboards	• Operational data (capacity, demand, activity/utilisation, cost, experience, safety, assets) • **Aggregated linked patient records** • Aggregated linked workforce data
4	**Research and Innovation**	*E.g. clinical trial recruitment & follow-up, disease progression and understanding, deep-learning AI, trial set-up/sizing* [improved population health, reduced health inequality, economic impact]	• Academic, charity sector and industry researchers	• Weekly • Anonymised for majority of use cases • Trial recruitment and follow up requires re-identifiable data, imperfect but timely	• **Rich, linked, clinical and operational data over life course / clinical pathway** • Including 'omic and patient reported data

Requirements for identifiability of patient/staff information and refresh rate differ depending on use and user type; access must be secure and auditable for all use cases

Despite disparate uses, the data types are rooted in linked person-level data

It is this common need for linked patient data that underpins our approach, reducing duplication and ensuring traceability of personal data

Key platform applications explained

	Platform application	*Description*
1	Distribution	To allow for users in two or more teams/organisations, to smartly commission home care packages (such as beds) for patients who require to be discharged, using a marketplace on the FDP. Primarily used for supporting the Discharge use case.
2	Citizens Invite	The method to contact and invite identified eligible citizens to clinical programmes or services, such as Vaccinations and Screening. The contact can be through digital, email, SMS text or physical letters only.
3	Cohorting	The process to identify and create a group of citizens of a given set of characteristics, that are statistically at risk or eligible for a particular service or intervention. It will be used to plan proactive and preventative healthcare measures to improve clinical outcomes.
4	Load Balancing	To enable systems to manage demand and capacity across services to better utilise system resources and meet clinical and patient needs. e.g. sharing capacity and enabling better interfacing of care pathways (primary/ secondary/ tertiary care).
5	Patient Communications Interface	To allow a user to view and track their key events, outcomes or touchpoints, such as appointments along their clinical pathway. It is the ability to interface with Patient Engagement Platforms (e.g. Dr Doctor) where a use case or application requires it.
6	Pathway Management	Will provide a single view of patients on a particular pathway and the tasks needed to move through the pathway.
7	Remote Monitoring Surface	Provides a platform whereby clinicians can view and monitor a patient's clinical needs remotely through the patient's wearable or device, allowing for clinicians to not be present with the patient themselves.
8	Scheduling	To support scheduling of patients into clinical capacity in areas such as operating theatres, diagnostic scanners, outpatient clinics, community clinics.
9	Medicines and equipment ordering	To allow end-to-end order management system to centralise the ordering, stock check and release of nationally procured medicines, e.g. vaccines
10	Supply chain management	To standardise inventory, Procurement, and stock allocation. Beginning with PPE and including other national ordering inventory data thereafter
11	Forecasting, monitoring and evaluation	To enrich existing datasets with additional data as it is acquired to analyse and inform decision making across multiple services - with the aim to measure and assess patient outcomes and quality of care.
12	Data Cleansing	The cleansing of data to ensure one version of the truth across the NHS
13	Data Enrichment	The ability to enrich existing datasets with additional data as it is acquired to analyse and inform decision making across multiple services

Procurement Approach Fairness and Sensitivities

- We are in the final stages of obtaining Outline Business Case (OBC) approval, which will allow the launch of the procurement process.
- NHS England is running a fair, open and transparent procurement process. **This competition will be open to all suppliers that meet NHSE's minimum criteria.**
- The **competitive dialogue procedure**
  - ✓ tests the deliverability of solutions,
  - ✓ ensures bidders understand and are aligned with NHS England policy and strategic goals and build and
  - ✓ tests the relationship, which will be fundamental to success.
- The dialogue stage will be **timebound** and will have a focused scope.
- All suppliers will be treated the same and evaluated against the same, **objective evaluation criteria**, which will include the development of a Proof of Concept**.**
- NHS England has designed the evaluation criteria and procurement approach to mitigate against an unfair **incumbent advantage.**
- The procurement approach mitigates against **vendor lock in** – we are buying a SaaS solution and NHS England will control the analytics and the pipeline code committed to the platform.
- NHS England is seeking a **single-supplier solution**, which enables a faster transition, a more seamless integration and consistent standards.

Privacy and Transparency

To ensure that the FDP complies with data protection principals, associated legislation and provides assurance to the public we will follow a **Privacy by Design** Approach, building robust data governance from the ground up to ensure data risk, cyber risk and data privacy are integrated into the fabric of the platform and supporting services.

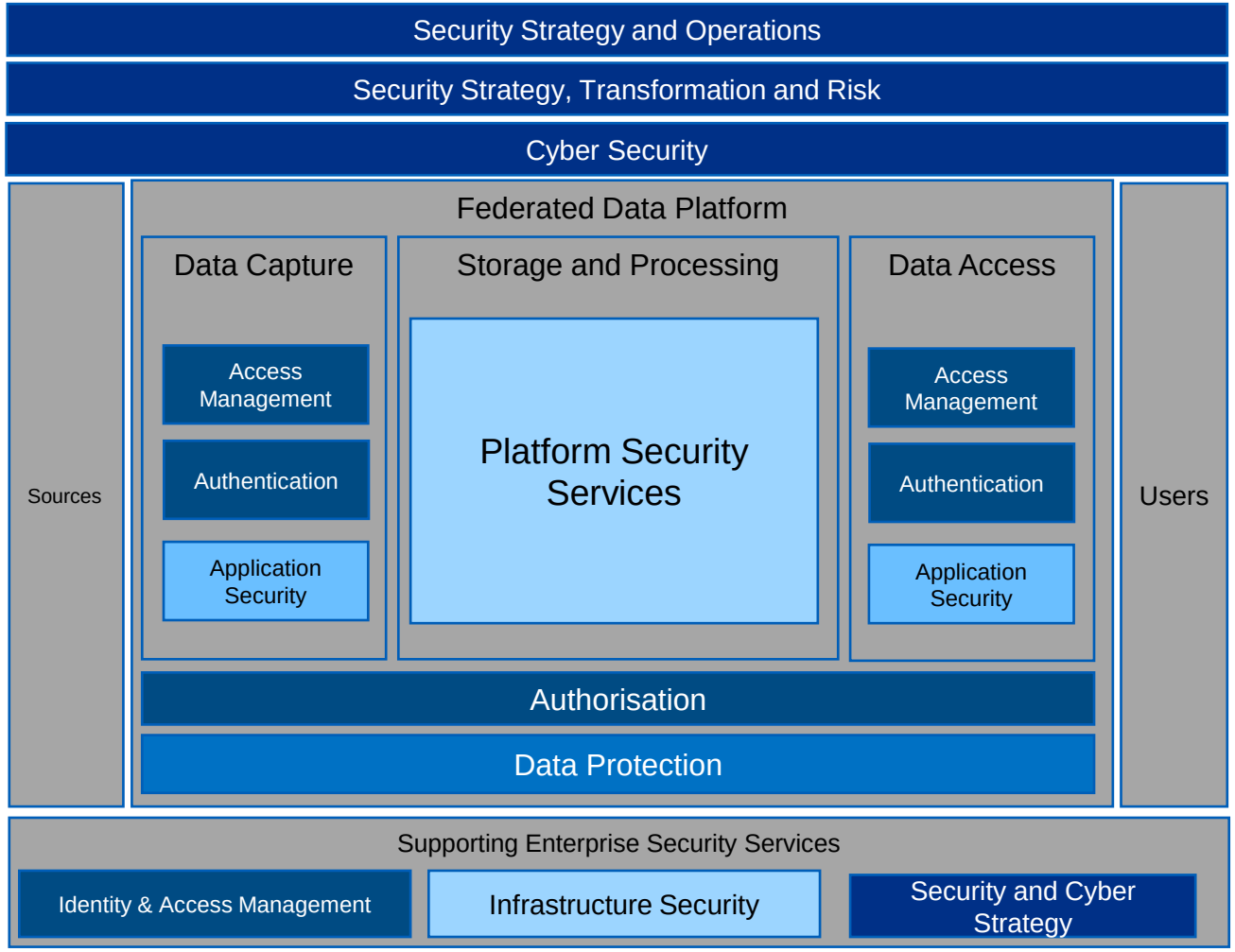
FDP specific IG Framework that has been put in place and ratified by NHS governance processes

- Initial DPIA for the procurement of the FDP solution.
- Overarching DPIA to articulate the data security and protection principals and lawful bases for deployment.
- Purpose specific DPIA's will be drafted for each use case, which will go through the formal approval routes within NHSE prior to roll-out.
    - FDP specific breach notification standard operating procedure
    - Specific privacy notices
- Legal mechanism for sharing and processing of data will be agreed in consultation with NHSE IG and legal counsel.

The above activities will be concurrent and aligned with the procurement process to ensure data protection by design and default principals are embedded, and there is co-production of the final data sharing approach. Contractual governance with the successful supplier will further support the IG framework in the management of the supplier's responsibilities.

- The supplier will be Identified as a processor rather than a controller ensuring that data control stays within the NHS, providing patient and public assurance and confidence in the use of data throughout its life-cycle
- The successful supplier must demonstrate the technical capability to adhere to National Data Opt-Out policy to all appropriate data flows
- **Critical Friends Group – Monthly meeting cycle -**membership of IG professionals from across the NHS landscape with responsibility to review and assist in the ongoing management of all IG documentation.
- **Active engagement with National data guardian, privacy campaigners and ICO to review** and shape the IG approach and associated documentation, including a monthly meeting with Med Confidential who feed into the creation of all IG documentation.

Security of the FDP is our top priority



Aligned to the Security and Cyber Strategy

We have explicitly stated in our security requirement that any solution must fully comply with the standards, frameworks and principles, including:

- ISO27001
- Cyber Essentials Plus
- Data Security Protection Toolkit
- NCSC Cloud Security Principles and Bulk Data Principles
- NCSC Cyber Assessment Framework
- NCSC CNI Assessment Hub Guidelines

Adoption of the NHS Security Operating Model

The FDP Service will align with the security controls, policies, roles and responsibilities outlined in the NHSE security Operating Model

Integrated with the Security Management Services

The FDP Service will integrate and enhance the core security management services that support operation, personnel, incident and risk processes by proactively evaluating security posture to ensure compliance

Enhanced Data Protection Services

Further to the IG controls that Privacy Enhancing Technology (PET) will apply to the data, FDP will also enforce data encryption across the platform

The FDP will comply with the published Secure Data Environments guidelines

The recent Data Saves Lives strategy included a core set of commitments to move the NHS from a model of data sharing, to data access through Secure Data Environments.

In particular federated data platforms will ensure:

- **Local NHS Control**: data does not leave the data controllership of NHS bodies. Only users that meet specific requirements will be allowed to access pre-agreed portions of the available information.
- **Transparency:** anyone that is using the data will be recorded, an audit trail created and the information they access will be assessed to ensure it meets the strict parameters. Any contracts between data controllers (NHS) and data processors (software provider) will also hold specific clauses relating to inappropriate use of data, and all contracts in relation to the federated data platform will be published.
- **Confidentiality:** there will be strict rules for when data and information can leave the secure environment of the platform and all access to the data and analysis is monitored.

*More information about Secure Data Environments is available on the NHS Digital website.

Data will be held in line with the Five Data Safes

Five Data Safes:

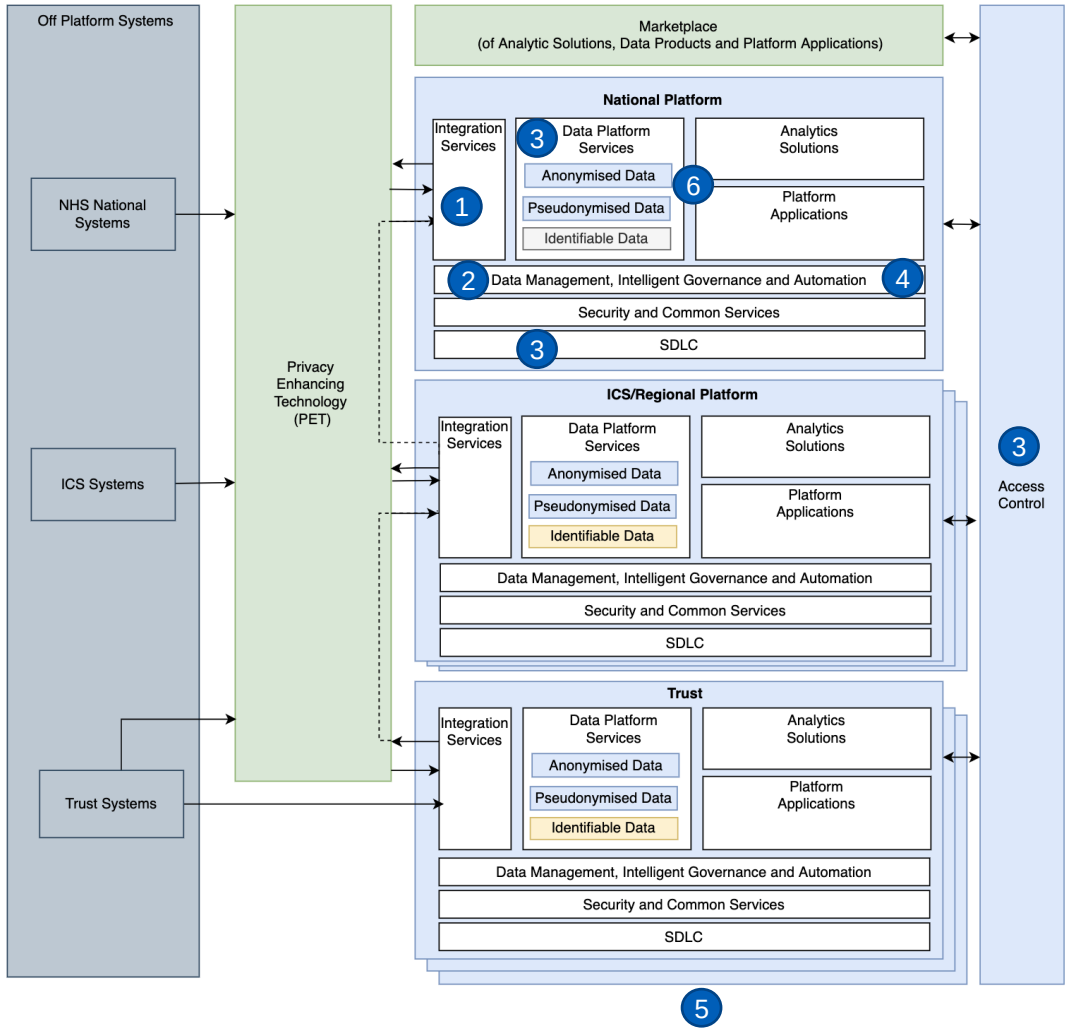
1. **Safe People** - individuals accessing the data are trained and authorised to use it appropriately.
2. **Safe Projects** - projects are approved by data owners for the public good.
3. **Safe Settings** - preventing inappropriate access, or misuse.
4. **Safe Outputs** - summarised data taken away is checked to ensure it protects privacy.
5. **Safe Data** - information is protected and is treated to protect confidentiality.

*More information about the Five Data Safes is available on the Office for National Statistics website.

Technology Approach

Our approach for defining the technical requirements were to first align on the ***key principles*** of the solution before documenting the ***architectural constraints*** and ***NHS standards/practices*** the solution must comply with.

These artefacts were used as a ***framework*** to validate the ***technical capability model*** that underpins the platform requirements.



1 **Comprehensive Integration Patterns**
We will provide a comprehensive suite of standardised integration patterns/services to allow the optimal integration mechanism to be selected for systems across the NHS landscape.

2 **Lean Operations**
We will enable shared services that drive scale and operational efficiency without heavy reliance on a central team. This will be achieved by relentlessly focusing on automation to replace manual tasks across development, test, deployment and support processes.

3 **Data and Code Sharing**
We will enable frictionless Data and Code sharing across tenants that adheres to all security and privacy constructs by implementing a canonical data model, a common policy-based access control mechanism and configurable deployment pipelines.

4 **Open Code, Open Source**
We will establish an Open Platform by adopting industry standards (inc. Reproducible Analytical Pipelines **RAP**) to enable interoperability with wider ecosystems/partners, drive innovation and minimise vendor lock-in

5 **Federated to align with our business model**
Following a federated model we will ensure that a common security and governance service maintains compliance across the FDP ecosystem to support NHS England centrally, as well as organisations delivering NHS funded care.

6 **Open APIs**
The FDP service will provide a suite of API integrations to establish an environment for digital innovation to thrive. API Integration services will cover access to ***platform services, data products*** and ***applications*** for both native and third party applications

The relationship between FDP and Research for R&D (SDE's)

- To support the transition to Secure Data Environments, NHS England is investing in a number of complementary programmes such as the Federated Data Platform and the £200m Data for R&D programme.
- **Secure Data Environments is now the umbrella term for data platforms to access NHS health and social care data**. We identify these platforms based on their primary users and requirements for access:
    1. **Secure Data Environments for planning and population health management**, such as the NHS COVID-19 Data Platform and the federated data platform. Primary use is for internal planning and operational management, for use by NHS employees.
    2. **Secure Data Environments to support research by academia and industry**, such as the platforms created by NHS Digital and OpenSafely. Primary use is to support medical research and development. Primary users are academic and industry researchers with a specific research question.
- These are **logically separate but complimentary platforms** to ensure that operational environments for health and social care staff remain separate to environments with external users such as pharmaceutical researchers.
- Overtime as data standardisation and data quality increase across health and social care (due to the use of federated data platforms) better quality data can be shared to and accessed via research and development environments.