Data Protection Impact Assessment

National Flu and COVID-19 Vaccination Programme including the National Immunisation Management Service (NIMS)

Version 2.4

Status: Approved

Classification: OFFICIAL

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Purposes

Is this a new DPIA or update to a previous assessment?	Update – version 2.4
Fully describe what is the purpose of the project and how is the processing of information necessary to that work?	

NHS England has commissioned NHS South, Central and West CSU (which is part of NHS England) to implement a National Immunisation Management Service (NIMS).

The implementation of NIMS will deliver a centralised service for the management of:
- seasonal flu immunisation and
- clinical cohorts as part of the call / recall service for COVID vaccinations

This service is an essential component of NHS England's response to the COVID-19 pandemic. This is because:

1. it will help to ensure that any second "spike" in coronavirus infections in England is separated in time as far as possible from the annual flu epidemic – so minimising pressures on NHS resources
2. it will provide a mechanism for the delivery of the national COVID-19 immunisation programme by establishing a dynamic infrastructure capable of responding rapidly to target appropriate cohorts across the whole population of England.

It is essential that the two programmes are coordinated to accommodate the developing characteristics of the pandemic, and any interfaces between the vaccines, and their delivery processes as they are established.

To this end the Immunisation Management System (IMS), the central database that supports the NIMS will be populated with

1. demographic information from the Personal Demographics Service for everyone resident and registered with a GP in England (excluding S flags indicating that a record is sensitive, so access is restricted) –
2. SNOMED flu clusters which indicate vulnerability to flu, and underlying conditions for everyone registered with a GP in England (again excluding S flags)
   Any additional SNOMED clusters extracted from GP system suppliers defined as necessary for identification of COVID at risk groups for call/ recall and management of the vaccination service as determined in partnership with PHE / Chief Medical Officer

NHS Digital have agreed to provide both the demographic and clinical datasets as an initial load and on an on-going basis.

Work will be carried out with System C (Data Processor) who will develop the technical infrastructure.

The seasonal flu programme is a long-established and successful vaccination

programme that has saved lives and delivered a cost-effective prevention programme, along with reducing pressures on NHS services during the winter.

The annual vaccination programme is a critical element of the system-wide approach for delivering robust and resilient services throughout the year. The service has traditionally been offered to patients in specified 'at risk' cohorts and to those aged 65 years and over and was expanded in 2013 to include the first children's programme. This children's programme has expanded year upon year and in 19/20 covered children aged 2 years to those in school year 6 inclusively.

Originally, the services were mainly delivered by the registered General Practice (GP) of the patient, but this model has expanded to include community pharmacists, maternity units, school-aged vaccination providers and others as the programme developed and the cohorts increased. Some provision is universally offered and there are also additional regional variations to suit the local populations and to ensure that diverse groups are catered for and that inequalities are minimised.

Uptake of the vaccination varies locally and regionally and is different for each cohort. In 19/20 the vaccination uptake rates ranged from 43.8% for 2 and 3 year olds to 72.4% for the '65 years and over' cohort. In all cohorts, coverage has failed to reach the desired aspirational targets each year.

The measures introduced by the Government in England to contain and control the spread of the COVID-19 virus will impact on the delivery of the seasonal flu programme in 2020/21.

Social distancing, shielding of the most vulnerable patients, public awareness and perceptions of viruses, herd immunity and infection control, alongside the public drive to protect the NHS are all contributing factors. The current uncertainty of when and how lockdown measures put in place by the Government are likely to be relaxed or changed is also a limiting factor that requires a variety of delivery options to be developed. A cohort by cohort approach to operational planning and delivery has been taken below with the addition of some cross-cutting themes.

The project is based on the existing children's immunisation service which is managed by NHS South Central and West CSU (SCW). This model has been expanded to cover all citizens.

The service uses two integrated standard off the shelf software systems: the CarePlus immunisation system, and the CareCentric shared record system, supplied by the System C and Graphnet Care Alliance.

CarePlus currently manages immunisations for around half of children in England and combined with CareCentric it delivers the children's immunisation programme for all of Greater London. CareCentric holds and provides access to very detailed clinical records including primary care records for over 12m English citizens.

NIMS will be supported by an Immunisation Management System (IMS). This platform will integrate new instances of CarePlus and CareCentric. It will be populated initially with demographic data representing the population of England from the Personal Demographics Service which is processed by NHS Digital

under Direction of the Department of Health and Social Care and NHS England. It will subsequently receive regular updates to ensure that the two systems remain synchronised.

NHS Digital will also provide SNOMED Flu Clusters with underlying conditions, which will be mapped to the demographic data in IMS. This will enable NHS England flexibly to identify cohorts for invitation for both flu and COVID-19 immunisation when the vaccine becomes available. It is essential that there is interoperability between the demographic data required for Flu and COVID-19 immunisations to ensure that that we are able to accurately track immunisation status.

A Summary of how the Service will Work

- **Loading the national citizen list.** The Immunisation Management System (IMS) population list will be fed from the Spine Demographics Reporting Service (SDRS). This includes demographic details for every citizen. There will be an initial load of data and the system will then be connected to receive nightly spine updates.

- **Loading SNOMED flu cluster data to enable cohort selection.** NHS Digital will provide SNOMED flu clusters with underlying condition to enable NHS England to identify cohorts to be invited for immunisation. For COVID, the SNOMED Clinical Risk Clusters will be extracted directly from GP System Suppliers.

- **Adding additional citizen data.** There are other factors such as the shielded patient lists, health staff and social care worker lists etc which could be used to augment the clinical data and further refine the system for selection and reporting purposes. Lists of unpaid carers are obtained via NHS Digital from the DWP, Local Authorities and other sources.

- **Selecting citizens to immunise.** The system will have an interactive dashboard which will allow the selection of cohorts of citizens to call for immunisation. Factors such as age, ethnic origin, gender, social determinants (e.g. economic banding), frailty, and underlying conditions can be added. The system will show how many citizens will be called if the selection criteria entered are used. The analysis will include a full geographical breakdown so users can ensure there are sufficient vaccinations and delivery capacity to meet demand. Citizens already vaccinated will be excluded automatically.

- **Processing selected citizens.** Once the groups to immunise have been selected on the interactive dashboard, the selection criteria will be notified to the Immunisation Management System (IMS) for processing.

- **Calling citizens for vaccination**. Once the cohort selection has been processed by the IMS the following steps will occur:

  - **Scheduling.** The IMS will action the selection criteria and generate the list of citizens to be invited for immunisation. The list of selected citizens will be sent to the mailing service and the national booking system managed by NHS Digital as a controller.

- o **Calling citizens for vaccination**. The mailing service will produce the invitation letters using pre-defined templates. The letters will include details signposting citizens to local vaccination centres appropriate for the locality (e.g. GP Practice, national and independent vaccination centres). The letters will be posted in blue envelopes to mitigate risk of loss in postal service.

- o **Returned Post.** The mailing service will provide a list of the details of any citizens where the post has been returned.

- o **Reminding citizens not yet vaccinated.** The IMS will monitor the citizens invited and send out a reminder via text or letter to any who have not yet been vaccinated or who have not booked an appointment through the national booking system.

- o **Booking an Appointment.** The citizen will arrange for an appointment with a local vaccination service and the booking will be managed locally by the vaccination services or alternatively through the national booking service. Booking methods will include on-line registration, telephone bookings and walk-in centres; the booking system is out of scope for the IMS.

- o If the citizen makes a booking through the national booking service, the national booking system will be able to validate that the citizen has been selected.

- • **Recording vaccinations given.** When a citizen attends for vaccination the immuniser will be able to use one of a number of point of care systems provided by NHS England as a controller to record vaccinations given and adverse reactions:
  - o NIMS Web App – an integral part of NIMS – see below.
  - o Arden and GEM NIVS app for health and care workers recorded on the NHS Electronic Staff Record (flu and COVID); Maternity patients for flu only (a separate DPIA has been approved for this by NHS England)
  - o The Pinnacle Pharmoutcomes system for GP Practices and vaccination centres run by Primary Care Networks and Trusts. (delivered by EMIS/Pinnacle as a processor on behalf of NHS England)

In addition to the systems listed above, similar point of care systems commissioned by other organisations enable them to record vaccinations given. The providers of these systems act as processors for the commissioning organisations, for example the GP practices comprising a Primary Care Network.

All of these systems provide updates to NIMS via NHS Digital – see the *Providers to NHS Digital* section in the *Data Flows – detailed flows section*. The only exception to this is the NIMS Web App which updates NIMS directly – see process I3 in the *Data Flows – detailed flows section*.

All of the point of care systems access the IMS lookup. This provides details regarding the citizen's immunisation status and pertinent medical conditions so

that the immuniser can make an informed decision on whether it is safe to administer the immunisation or not. The immuniser will be able to record the details of the vaccine administered directly to the IMS using the Web APP. For GPs, this information will come automatically through the GP data feed. Immunisation centres will also be able to send an electronic list of citizens immunised on a daily basis via the Message Exchange for Social Care and Health (MESH).

Other attributes are collected at the point of care include:
- Carer
- Social care worker
- Health care worker
- Care home worker
- Care home resident
- Ethnic category

Also
- Vaccination location
- Care home details

- **Informing GPs.** The IMS will send daily updates to GP systems to allow them to update their local record and monitor progress for their citizens.

- **Providing real-time local and national statistics.** The system provides a Business Intelligence (BI) solution using Microsoft Power-BI which allows comprehensive dashboarding and analysis of the vaccination programme in real time. This service is an integral part of the call/recall process and drives initiatives to increase uptake. Dashboards can be provided at national, regional, STP, local authority, ICS/P or GP practice level and in each case will only cover statistics for the citizens covered at that area.

  Reports provide aggregate level population reporting on flu and covid vaccination uptake with the ability to drill to practice and ward level granularity.

- **Providing person-identifiable and pseudonymised data for vaccination management and recall**

  Organisations supplying a workforce file to NIMS (D4) have the ability to view vaccination status within their organisation. The report allows drill down to person-identifiable level data and person details can be exported. Access is via the IMS Workforce Status App.

  Vaccination sites have access to person-identifiable data from their point of care system (e.g. Pinnacle) relating to the patients that they have vaccinated for the purposes of identifying patients to conduct second dose COVID vaccination recall.

  Vaccination sites also have access to pseudonymised data which can be analysed to produce aggregate reports vir management and planning purposes, without the need to reveal patient identities.

- **SMS Invitations: Content Optimisation Trial**
  A random selection of individuals will be sent one of 5 variants on the SMS.

  Objectives: Which BI informed text message will maximise the likelihood of booking a COVID-19 vaccination appointment and receiving first-dose vaccination? The primary outcome will be the booking rate within 72 hours of receiving the SMS and the secondary outcome will be the first dose vaccination rate within 14 days of receiving the SMS. A unique pseudonym ID is required to enable linkages when updates are received relating to the same patient, without revealing their identity.

  Pseudonymised datasets will be sent to Behavioural Insights for analysis. Behavioural Insights is a processor acting for NHS England.

Assurance and connection of Point of Care Systems

System Supplier (processor)	NHS Digital Assurance	SystemC Assurance	Instructing Controllers
Eva Healthcare	*Accelerated assurance approach for COVID-19 vaccination point of care solutions* Work in progress – to be completed before controlled go-live. Note 3-month leeway on IG Traceability matrx. *IG: Vaccination Solutions Fast Track Assurance Questions* – completed *External PoC Requirements Risk Log* – Initial completion by supplier Finalise response w/c 19/04/2021 – complete 10/05/2021 NHSD assurance to be completed before controlled go live (anticipated w/c 03/05/2021 – complete 10/05/2021) *IG Traceability matrix*	*BMS-DOC 030 Alliance Third Party IG IS Due Diligence* Completed <u>DSPT compliance</u> standards met 19/20 <u>Supplier standards compliance</u> ISO/IEC22301:2019 Security and resilience — Business continuity management systems — Requirements ISO/IEC27001:2013 Information technology — Security techniques — Information security management systems — Requirements ISO/IEC20000-1:2018 Information technology — Service management — Part 1: Service	ALPSGroup and Seaford PCN: THE LIGHTHOUSE MEDICAL PRACTICE Harness South PCN: PARK ROYAL MEDICAL PRACTICE

| | From Accelerated assurance approach: *Supplier commits to submit their full IG Traceability Matrix (TM), no later than three months (including a penetration test within three months) after the initial assessment.)* | management system requirements

Cyberessentials indicated but not Cyberessentials+ | |
|---|---|---|---|
| | | | |

Nature of the data

Will the processing involve anonymised information[1]?	Yes
Will the processing involve pseudonymised personal data?	Yes
Will the processing involve fully identifiable personal data?	Yes

Will the processing involve processing pseudonymised data about NHS patients?	Yes
Will the processing involve processing fully identifiable data about NHS patients?	Yes

Assets

Does the proposal involve creating a new information asset?	Yes. Immunisation Management System will be a new asset.
Does the proposal involve processing data held on an	Yes

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[1] anonymous information is information which does not relate to an identified or identifiable natural person or to personal data rendered anonymous in such a manner that the data subject is not or no longer identifiable

existing information asset or assets?	
Is/are the asset owner(s) aware of the proposal	Yes

What is the timeframe for the project/programme/initiative?

Please include commencement dates and any foreseen end dates

24/08/2020 – initial SDRS feed (demographic data feed) 31/08/2020 – clinical data feed 21/09/2020 – Send invitation letters On-going processing throughout 2021 as necessary to deliver COVID-19 vaccination.

Controllers[2]

NHS England	Yes
TDA	No
Monitor	No
Other (Please do not include any third party that we are contracting with to process personal data for us as a processor.)	

Screening questions

Does the proposal involve any of the following – drop down list to include: • NCDR • Pseudonymised by NHS Digital • Aggregate data • Anonymised data	Yes – aggregate and anonymised data
Has processing of this nature already been captured and considered within a previous DPIA? If so, link to reference Number	No
Will the processing involve a large amount of personal data (including pseudonymised personal data) and affect a large number of data subjects?	Yes

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[2] 'controller' means NHSE, alone or jointly with others, determines the purposes and means of the processing of personal data

Will the project involve the use of a new technology(ies) which might be perceived as being privacy intrusive? i.e. using biometrics, facial recognition, Artificial Intelligence or tracking (such as tracking an individual's geolocation or behaviour)?	No
Will the processing introduce or make use of a new platform not currently in use?	Yes
In the absence of proper controls is there the risk that the processing may give rise to discrimination, identity theft or fraud, financial loss, damage to the reputation, loss of confidentiality of personal data protected by professional secrecy (e.g. health records), unauthorised reversal of pseudonymisation, or any other significant economic or social disadvantage?	Yes but only in the absence of proper controls
Does the proposal introduce difficulties in ensuring that individuals are informed or able to exercise their information rights?	No
Will there be processing of genetic data, data concerning health, sex life, racial or ethnic origin, biometric data, political opinions, religion or philosophical beliefs, or trade union membership?	Yes
Will there be processing of data concerning criminal convictions and offences or related security measures?	No
Will the project involve the targeting of children or other vulnerable individuals for marketing purposes, profiling or other automated decision making?	No
Will the processing result in you making decisions or taking actions against individuals in ways which can have a significant impact on them? e.g. decisions about an individual's access to a product, service, opportunity or benefit, or recruitment aptitude test based on automated decision making (including profiling)?	No
Will there be a systematic monitoring of a publicly accessible area on a large scale (e.g. CCTV)?	No

Will the processing include any data matching e.g. the combining, comparing or linking of personal data obtained from multiple sources?	Yes
Will personal data about individuals be shared with other organisations or people who have not previously had routine access to the data?	No
Will the project/proposal use personal data about individuals for a purpose it is not currently used for or in a new way?	No
Will the project require you to contact individuals in ways which they may find intrusive? i.e. telephoning or emailing them without their prior consent.	Yes
Are you using a Data Processor/third party supplier or is a service/processing activity being transferred to a new supplier/organisation (or re-contracted) at the end of an existing contract?	Yes

NB. If the answer to any of the above questions is Yes, please complete the rest of the form. If all of the screening questions are answered No, you do not need to complete the rest of the form, but the central or regional Corporate IG team must still review and approve the document.

Personal data[3]

Why would it not be possible to do without personal data?	The system needs to include citizens personal and clinical details in order to be able to call and recall citizens for immunisations, to determine cohorts of patients to immunise and to plan remedial action where take up is insufficient.
What are the required personal data? Please itemise them or supply a dummy sample, blank forms, screenshots from the prototype system etc.	The data that is loaded in to the IMS will include demographic data, SNOMED flu clusters and underlying conditions for every patient registered with a GP in England. See the table below for the SNOMED flu clusters.

[3] 'personal data' means any information relating to an identified or identifiable natural person ('data subject'); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person

|	We need the full demographic data for PDS so that we can have a consistent denominator for reporting vaccine uptake and also for traceability between the population for the interplay between Flu and COVID cohorts.
	We need all the events data for each vaccination event per person to inform future call/recall activities – this will include specifically which vaccine type was used (i.e. which variation of flu vaccine, or which variation of COVID vaccine) given there will be different brands/types of vaccine for both vaccination programmes that may lead to different call/recall business logic.
Please confirm that this is the minimum amount of personal data that is necessary.	Yes – the data flows, datasets and justifications are set out in the data flows section.
Would it be possible for NHSE to use pseudonymised personal data for any element of the processing?	The solution uses de-identified data in all areas where identified data is not required. In particular the cohort selection, planning and reporting functions work with de-identified data only.
If Y, please specify the element(s) and describe the pseudonymisation technique(s) that we are proposing to use.	Anonymised and/or pseudonymised data will be used for cohort monitoring and update purposes. The solution uses de-identified data in all areas where identified data is not required. In particular the cohort selection, planning and reporting functions work with de-identified data only. The BI Platform follows the following process for pseudonymisation: Source is the Direct Care mart holding all data. Data is copied to the Pseudonymised mart (Opted-Out patients and Sensitive Clinical Codes can be stripped out in flight) Field level configuration for Pseudonymisation – No change – Blank – Truncate – Mask Dates Tokenised IDs – Can be re-identified – National DE-ID / RE-ID or encrypted local values

	– Secured data table which stores mapping – User interface to reidentify Key fields undergo two-way encryption, maintaining referential integrity

SNOMED Flu Clusters

Row Labels	Row Labels
AST_COD	Asthma diagnosis codes
ASTADMSN_COD	Asthma emergency admission codes
ASTRES_COD	Asthma inhaled corticosteroids codes
ASTTRTATRISK1_COD	Asthma resolved codes
BMIVAL_COD	Body mass index (BMI) codes
CHRONHD_COD	Body mass index (BMI) codes >= 40 without an associated BMI value
CKD1AND2ATRISK1_COD	Body mass index (BMI) codes with an associated BMI value
CKDATRISK2_COD	Chronic heart disease codes
CKDRES_COD	Chronic kidney disease (CKD) resolved codes
CLDATRISK1_COD	Chronic kidney disease (CKD) stage 1 and 2 codes
CNDATRISK1_COD	Chronic kidney disease (CKD) stage 3, 4 and 5 codes
CRDATRISK2_COD	Chronic liver disease (CLD) codes
DM_COD	Chronic neurological disease (CND) codes
DMRES_COD	Chronic respiratory disease (CRD) codes
FLUDEC_COD	Codes indicating the patient has chosen not to receive a flu vaccination
FLUEXPCON_COD	Codes indicating the patient is pregnant
FLUNC_COD	Diabetes mellitus codes
HCW_COD	Diabetes resolved codes
IMATRISK1_COD	Flu vaccination no consent codes
IMMCOMPHHC_COD	Flu vaccine contraindications (expiring)
IMRESATRISK1_COD	Flu vaccine contraindications (persisting)
IMTEMP_COD	Healthcare worker codes
IMTRTATRISK1_COD	Household contact of immunocompromised individuals
IMTRTATRISKDRUG_COD	Immunosuppression codes (expiring)

INTGP1_COD	Immunosuppression codes (persisting)
INTGP2_COD	Immunosuppression drugs
INTGPDRUG_COD	Immunosuppression procedure codes
INTOHP1_COD	Immunosuppression resolved codes
INTOHP2_COD	Intranasal seasonal influenza vaccination 'first' dose given by other healthcare provider codes
LBMI_COD	Intranasal seasonal influenza vaccination 'second' dose given by other healthcare provider codes
LBMI40_COD	Intranasal seasonal influenza vaccine 'first' dose given codes
LD_COD	Intranasal seasonal influenza vaccine 'second' dose codes
NEEDFLUVAC_COD	Intranasal seasonal influenza vaccine drug codes
PREG_COD	Learning disability (LD) codes
SFLUGP1_COD	Requires influenza virus vaccination codes
SFLUGP2_COD	Seasonal influenza inactivated vaccine codes
SFLUGPDRUG_COD	Seasonal influenza inactivated vaccine first dose codes
SFLUOHP1_COD	Seasonal influenza inactivated vaccine first dose given by other healthcare provider codes
SFLUOHP2_COD	Seasonal influenza inactivated vaccine second dose codes
XFLU_COD	Seasonal influenza inactivated vaccine second dose given by other healthcare provider codes

Data Flows – logical system architecture
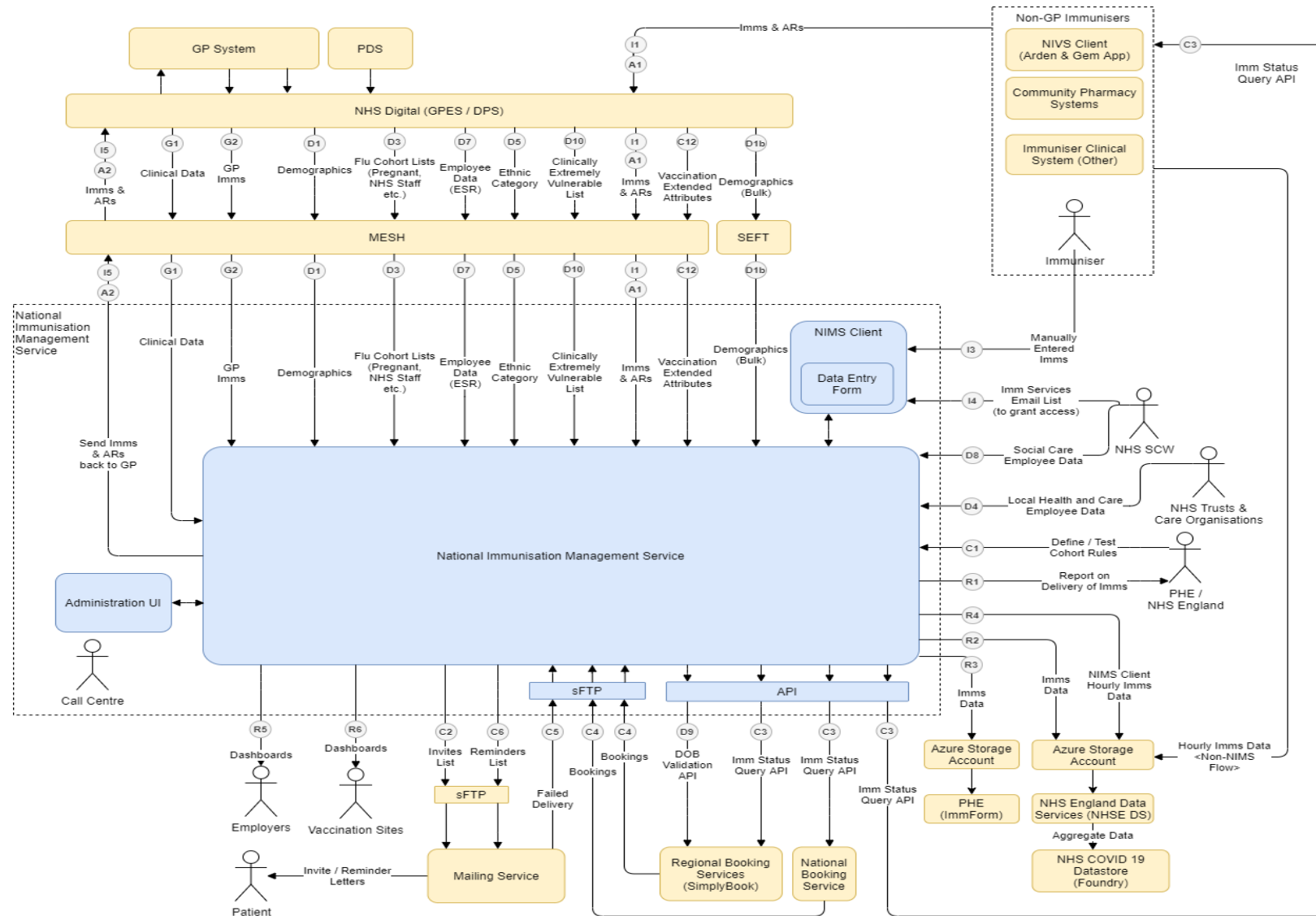
Data Flows – detailed flows

Content	Sender	Recipient	Mode / Security	Frequency	Specification	Data justification
DEMOGRAPHICS						
D1: Demographics data feed Load demographics data for the whole of England from PDS	NHS Digital (PDS)	IMS	SDRS via MESH	Daily	**NHS Digital:** Spine Reporting Requirements – Flu Cohort Management v1.3	Demographics and cohort to support selection via the dashboard To manage the Flu Cohort within Spine by: 1. Identifying subjects on Demographics who meet the criteria to be added to the cohort (and are not current members of the cohort). 2. Identifying subjects, who are already part of the cohort, whose key demographic / primary care registration details have changed since last supplied to Graphnet. 3. Making the demographic / primary care registration details of subjects identified above available to Graphnet.
D1b: Demographics data – Initial Bulk Load At the start of the project, we will receive an initial bulk extract of demographics for the whole of England. This will be manually downloaded using SEFT and loaded into the IMS	NHS Digital (PDS)	IMS	SEFT – Manual file download	One-Off	**NHS Digital:** IMS Demographic Bulk Load Specification v1.1	Demographics and cohort to support selection via the dashboard Bulk extract prepared by NHS Digital to populate demographics in IMS for the 2020/21 Flu Season, and potentially subsequent COVID vaccination management.
D2: Demographics Updates	NHS Digital (PDS)	IMS	PDS Integration	Real-time	Existing PDS Interactions	Call centres update demographics and manually record imms via the Administration UI This is a facility for SWC CSU. It is not enabled at present.

Call centre staff trace and update demographics on PDS						
D3: Flu Cohort Lists Additional information about who is in which cohorts will be provided by NHS Digital. This includes lists of NHS Numbers identifying patients in one of the below cohorts: • Pregnant women • Household contact with immunocompromised people • Other included • Contra-indicated • Shielded list	NHS Digital	IMS	Initial Bulk via SEFT, then weekly updates via MESH	Weekly	**Graphnet:** "Graphnet Feed Spec - Vaccination Cohorts v1.4.docx"	NHS Number and cohort to support selection via the dashboard Lists of NHS Numbers identifying patients in one of the below cohorts: • Pregnant women • Shielded list • Household contact with immunocompromised people • Other included • NHS and Social Care Worker • Covid19 At Risk • Carers – DWP • Carers – Other • Carers – Local Authority
D4: Local Health and Care Employee Data Details of individuals who work in a health or social care organisation	Local Trusts / Care Organisations	IMS	sFTP	Weekly / Ad-Hoc	**Graphnet:** "Health and Social Care Worker Data Specification v0.4.docx"	Where possible, local trusts and care organisations will provide CSV files with details of all their staff. SCW CSU will aid in ensuring these are PDS traced to add NHS Numbers to all records, before processing the file in IMS. Data is submitted only by organisations using the NIMS client. The data is used to populate the dashboard presented via R5: Employer dashboards.
D5: Ethnic Category Data Details of Ethnic Categories for all patients in England	NHS Digital	IMS	Initial Bulk via SEFT, then weekly	Weekly	**NHS Digital:** Ethnic Category Technical specification for NHS Digital to	To enable uptake monitoring and aid planning for the national Flu immunisation programme 2020 to 2021. (equalities monitoring)

			updates via MESH		NIMS Supplier delimited extract	Ethnic category for an individual identified by NHS Number.
D7: Employee Data Details of individuals who work in a health or social care organisation The file for health workers will come from ESR, and NHS Digital will do PDS tracing to attempt to add NHS Numbers to all records, before sending the file on to the IMS. **(This flow is not operational – 17/03/2021)**	NHS Digital	IMS	MESH	Weekly	**NHS Digital**: NHS Employee Flu Cohort: Requirements Specifications v1.0	Requirements to identify NHS employees eligible for priority flu vaccinations in line with 'Flu/Covid-19 Vaccination Epic 1 - Eligibility' provided by NHS England & NHS Improvement. Inbound flow: NHSBSA to NHS Digital from NHSBSA - demographics Outbound flow: NHS Digital to IMS – NHS Number and flu cohort ("NHS and Social Care Worker") Processing of NHS employee data to identify priority cohorts: • Acute Hospital Trusts • Mental Health Trusts • Community Healthcare Trusts • Ambulance Trusts. Includes social care workers where employed by NHS Trusts.
D8: Social Care Employee Data Details of individuals who work in a social care organisation	Local Social Care Organisations	IMS	Loaded by NHS SCW into IMS customer reporting area	Weekly / Ad-Hoc	[*2 AH investigating whether operational 17/03/2021]	NIMS client users only Where possible, local social care organisations will provide CSV files with details of all their staff. SCW CSU will aid in ensuring these are PDS traced to add NHS Numbers to all records, before processing the file in IMS. Data is submitted only by organisations using the NIMS client. The data is used to populate the dashboard presented via R5: Employer dashboards.

D9: Date of Birth Validation API for Regional Booking Services	IMS	Regional Booking Services	ReST API call	Real-time - whenever someone accesses the booking service	**Graphnet:** "Graphnet API Spec - NIMS DOB Validation API v0.1.docx"	For regional booking services that don't have PDS integration, a simple API has been provided to allow an NHS Number and DOB to be passed into NIMS. If there is a record matching that exact NHS Number and DOB, then a HTTP 200 is returned. If not, a HTTP 204 is returned. This allows the booking service to validate the identity of a patient before they make a booking.
D10: Clinically Extremely Vulnerable List Details of all patients who are classed as Clinically Extremely Vulnerable	NHS Digital	IMS	Bulk extracts sent via MESH	Weekly	**Graphnet:** "Graphnet Feed Spec - Clinically Extremely Vulnerable List.docx"	
GP DATA						
G1: GP Clinical Data This contains clinical data for the at-risk cohort for Flu (i.e. those that fall into one of the flu clusters). This includes the flu cluster(s) each at-risk patient is in, as well as the most recent SNOMED code which triggered them being in that cluster.	NHS Digital (using data from GPS via GPES extract)	IMS	MESH	Weekly	**Graphnet:** Graphnet Feed Spec – GP Latest Flu Coding CSV v1.3 GP System suppliers are extracting data against the 'Coronavirus (COVID-19): At risk patients - September 2020 business rules and expanded cluster list' published here: https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-collections/quality-and-	NHS Number and clinical information (GP events) to support the selection process. For each patient all the clinical clusters that have caused them to be in the at-risk cohort and the latest SNOMED code that has triggered each cluster and applicable values. It will also include medication events where appropriate but not values due to data quality issues.

					outcomes-framework-qof	
G1a: GP Clinical Data This contains clinical data for the at-risk cohort for Flu (i.e. those that fall into one of the flu clusters). This includes the flu cluster(s) each at-risk patient is in, as well as the most recent SNOMED code which triggered them being in that cluster.	GP Systems	IMS	MESH	Weekly	**Graphnet:** Graphnet Feed Spec – GP Latest Flu Coding CSV v1.3 GP System suppliers are extracting data against the 'Coronavirus (COVID-19): At risk patients - September 2020 business rules and expanded cluster list' published here: https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-collections/quality-and-outcomes-framework-qof	NHS Number and clinical information (GP events) to support the selection process. For each patient all the clinical clusters that have caused them to be in the at-risk cohort and the latest SNOMED code that has triggered each cluster and applicable values. It will also include medication events where appropriate but not values due to data quality issues.
G2: GP Immunisations Data This is a regular feed of any Immunisations administered by GPs.	GPs (via NHS Digital)	IMS	MESH	Daily	**Graphnet:** Flu Only: "Graphnet Feed Spec - Immunisations CSV v2.3.docx" COVID or Flu: "Graphnet Feed Spec - Immunisations CSV v3.1.docx"	Note: GPs are not yet sending COVID vaccination data, although this is operational for flu (17/03/2021).
COHORT SELECTION, CALL, RECALL, BOOKING						

C1: Cohort Selection	NHSE/PHE	IMS	Manual (and internal flow Pop Health to CarePlus via Battleship as per file spec)	At the start of each cohort selection period	**Graphnet:** Cohort List (C1) Feed Specification v0.7	Selection of people to be invited for vaccination.
Users will select the cohorts to be immunised. This will use our case finder tool and may include selection criteria for NHS staff, immunisations had already, already called, other immunisation within xx days (note – this will be dependent on the data fed into the solution).						It will also include which **cohort type** the citizen is in which will be one of the following: • Flu • COVID-19 It will also include which **cohort** the citizen is in: • 2-3 year olds • School age children reception to year 7 • 0 - 15 at risk including shielded • 16 - 17 at risk including shielded • 18 - 64 at risk including shielded • 50 - 64 year olds • 65+ at risk including shielded • 65+ not at risk • NHS and social care worker • Learning Disability* The following cohorts will appear in the front end but will not be scheduled: • Pregnant women * Learning Disability is not an explicit cohort in the front end. However if the eligible individual is NOT in the '2-3 year olds' or 'School age children reception to year 7', '0-15 year olds at risk' and has been flagged as having a learning disability in the cohort feed from NHSD, via the flu cluster LD_COD, the cohort should always be set to Learning Disability.

C2: Inform Mailing Service Details of those in the selected cohort will be sent to the mailing service to generate invite letters. The letter content will depend on factors such as patient cohort (over 65, etc) and geography.	IMS	Mailing Service	sFTP	At the start of each invite run	**Graphnet:** Immunisation Management System File Specification - Invitation List – CSV v1.2	Mailing list for invitation for vaccination.
C3: Query for Invited and Recent Imms When a patient is identified in the booking service, there is a need to be able to query for that patient's NHS number to identify whether the patient has been invited for a Flu/COVID vaccine (including which type of COVID vaccine should be booked), and when their most recent Flu and COVID vaccinations were.	IMS	National Booking Service	ReST API call Will use system-to-system authorisation using an OAuth2 client credential grant flow	Real-time - whenever someone accesses the booking service	**Graphnet:** Graphnet API Spec – Immunisations Query v1.0	When a patient is identified in the booking service, there is a need to be able to query for that patient's NHS number to identify whether the patient has been invited for a Flu/COVID vaccine (including which type of COVID vaccine should be booked), and when their most recent Flu and COVID vaccinations were. If information exists in the immunisation management service about that patient, the status will be returned – including: • If the patient has been assessed as "ready" for a COVID vaccination (i.e. they are eligible to book) • The type of COVID vaccination(s) that the person has been selected for (based on rules applied by NIMS) • The date of their most recent Flu vaccine • The dates of their most recent COVID vaccines (doses 1 and 2) • The type of COVID vaccination administered (dose 1 only)
C3a: Query for Invited and Recent Imms (Pinnacle)	IMS	Pinnacle	As C3	As C3	As C3	As C3

C3b: Query for Invited and Recent Imms (EVA Healthcare)	IMS	Pinnacle	As C3	As C3	As C3	As C3
C4: Bookings Data Returned To be able to report on booking that have been made, changes to booking, cancellations, etc. data can be sent back into the IMS Pop Health repository	Booking Service	IMS	SFTP	Daily	**Graphnet:** NIMS Feed Spec - Booked List for Booking Service CSV C4 0.7.docx"	Receipt by the by the National Immunisation Management System (IMS) for eligible individuals who have booked or cancelled an appointment with the National Booking System (NBS), regional booking service, or Trusts using SimplyBook for a COVID vaccination. The extract file will be created by the booking services for the NIMS to ensure future invitations for the eligible interval are done at an appropriate time and to enable the recall process to take account of a booking. NHS Number, booking information and cohort.
C4a: Trusts create C4 from SimpyBook data and Imms Status Query API (c3).	Trusts using SimplyBook	IMS	[* verify]	[* verify]	C4 spec.	We asked all booking services to provide a daily file of the bookings that have been made in their system, so we know not to invite/remind people who already have a booking for a Vaccination. Whilst the other booking services (National Booking Service and AccuBook) are able to do this directly from their booking system, the SimplyBook system used by a number of acute trusts wasn't able to provide this daily extract directly. One of the trusts involved (Shrewsbury and Telford Hospital NHS Trust) therefore created a utility which accesses data held in SimplyBook, and uses it to produce the file each day. However, the data they capture in SimplyBook and are able to extract using this utility does not give them the dose sequence that was booked

						(i.e. whether it was a dose 1 or dose 2). They therefore requested access to the immunisation status API to allow them to query the status of the patient's existing vaccinations to determine whether the booking was for a dose 1 or dose 2. They do this by comparing the dose 1 administered date returned by the immunisation status API with the booking scheduled date/time from SimplyBook.
C5: Failed Deliveries and Opt-outs for mailing There the mailing service reports that they were unable to deliver invites/reminders to a patient's acccess (i.e. the letter was returned), we will get this data back for subsequent reporting / follow-up, and to stop subsequent letters being sent.	Mailing Service	IMS	sFTP	Ad-hoc – when errors encountered by mailing service	This is split across three files: VAL (Data validation failure) IAR (Invalid Addresses) UR (Returned Mail)	Manage failed invitation letter deliveries and invalid addresses Names and addresses
C6: Send Reminders Where there has been no immunisation or booking recorded for a patient after X days, send a list of patients to the mailing service to generate reminder letters.	IMS	Mailing Service	sFTP	Periodically whenever reminders are scheduled from CarePlus. The CSU can vary reminder intervals for different cohorts.	**Graphnet:** "NIMS Feed Spec – Reminder List for Mailing Service CSV 1.1.docx"	Where there has been no immunisation or booking recorded for a patient after X days, send a list of patients to the mailing service to generate reminder letters. NHS Number, name address and type of vaccination.

C8: Recall Centre Contact List (Internal flow Presented to SCW as Admin UI)	IMS (Pop Health)	IMS (CarePlus)	Internal flow	Internal flow	**Graphnet:** Population Health Outbound Feed Specification Recall Centre Contact List v0.1	This file will contain a list of all citizens who are going to be contacted by telephone by the SCW Recall Centre. It will also include which cohort type the citizen is in which will be one of the following:
						• Flu • COVID-19 It will also include which cohort the citizen is in which will be one of the following: • 2-3 year olds * • School age children reception to year 7 * • At risk group including shielded * • Pregnant women * • 50 - 64 year olds • 65+ at risk • 65+ not at risk • NHS and social care worker • Learning Disability* • Children at-risk* This cohort list will be run on a regular schedule. * Only adults (ie aged over 18 at date of selection) will be eligible to be selected. The selection dashboard must not include: • Children (under 18 at point of selection) • Individuals who have previously been selected in the current Flu Season (ie from 1st Sept 2020) for a telephone contact • Individuals who have been immunised in the current Flu Season (ie from 1st Sept 2020)

						• Individuals who do not have a telephone number
C9-11: COVID Allocation and COVID "Ready" (run processes to apply rules)	IMS (Pop Health)	IMS (CarePlus)	Internal flow	Internal flow	**Graphnet:** Immunisation Management System File Specification – COVID Allocation and COVID "Ready" – CSV v0.1	This document defines the export specification for three sets of data: • Citizens allocated to a specific COVID vaccine types (C9) • Citizens selected to be marked as "COVID ready" – i.e. eligible to book a vaccination (C10) • Citizens who have been "self-referred" by the booking service, and should be made eligible as a result (C11)

PROVIDERS TO NHS DIGITAL						
I1a: Immunisations from settings supported by NIVS (Arden and Gem App) to NHS Digital	NIVS	NHS Digital	MESH	Real-time	**NHS Digital:** Vaccination Technical specification for Supplier to NHS Digital delimited extract v3.0	Collate imms from settings supported by NIVS for onward distribution to **IMS and GPs.** Demographics, vaccination outcome information, consent to treatment
C12a Extended Attributes from settings supported by NIVS (Arden and Gem App) to NHS Digital	NIVS	NHS Digital	MESH	Real-time	**NHS Digital:** Functional Specification for capture of Extended Attributes, Vaccination Location and Care home details at Point Of Care v2.0 Technical Specification	Extended Attributes: • Carer • Social care worker • Health care worker • Care home worker • Care home resident • Ethnic category Vaccination location Care home details

					for Extended Attributes at Point Of Care to NHS Digital v1.3	
A1a: Adverse reactions from settings supported by NIVS (Arden and Gem App) to NHS Digital	NIVS	NHS Digital	MESH	Real-time	**NHS Digital:** Adverse Reactions Technical specification for Supplier to NHS Digital delimited extract V0.3 (draft) [* obtain approved version]	Collate adverse reactions from settings supported by NIVS / NIMS App only for onward distribution to **GPs.** Note – there is no requirement for recording adverse reactions in IMS.
I1b: Immunisations from Community Pharmacies to NHS Digital	Community Pharmacy Systems	NHS Digital	MESH	Real-time	**NHS Digital:** Vaccination Technical specification for Supplier to NHS Digital delimited extract v3.0	Collate immunisations from community pharmacies for onward distribution to **IMS.** Demographics, vaccination outcome information, consent to treatment (note there is no accompanying adverse reactions flow)
C12b Extended Attributes from Community Pharmacies to NHS Digital	Community Pharmacy Systems	NHS Digital	MESH	Real-time	**NHS Digital:** Functional Specification for capture of Extended Attributes, Vaccination Location and Care home details at Point Of Care v2.0 Technical Specification for Extended Attributes at Point Of Care to NHS Digital v1.3	Extended Attributes: • Carer • Social care worker • Health care worker • Care home worker • Care home resident • Ethnic category Vaccination location Care home details
I1c: Immunisations from other vaccination providers to NHS Digital	Immuniser clinical system	NHS Digital	MESH	Real-time	**NHS Digital:** Vaccination	Collate immunisations from other vaccination centres settings for onward distribution to **IMS and GPs.**

(flu – schools, COVID – prisons)					Technical specification for Supplier to NHS Digital delimited extract v3.0	Demographics, vaccination outcome information, consent to treatment
C12c Extended Attributes from other vaccination providers to NHS Digital (flu – schools, COVID – prisons)	Immuniser clinical system	NHS Digital	MESH	Real-time	**NHS Digital:** Functional Specification for capture of Extended Attributes, Vaccination Location and Care home details at Point Of Care v2.0 Technical Specification for Extended Attributes at Point Of Care to NHS Digital v1.3	Extended Attributes: • Carer • Social care worker • Health care worker • Care home worker • Care home resident • Ethnic category Vaccination location Care home details
A1c: Adverse reactions from other vaccination providers to NHS Digital	Immuniser clinical system	NHS Digital	MESH	Real-time	**NHS Digital:** Adverse Reactions Technical specification for Supplier to NHS Digital delimited extract V0.3 (draft) [* obtain approved version]	Collate adverse reactions from other vaccination providers for onward distribution to **GPs.** Note – there is no requirement for recording adverse reactions in IMS.
I1d: Immunisations from settings supported by Pharmoutcomes to NHS Digital	Vaccination centres supported by Pharmoutcomes	NHS Digital	MESH	Real-time	**NHS Digital:** Vaccination Technical specification for Supplier to NHS Digital delimited extract v3.0	Collate immunisations from settings supported by Pharmoutcomes for onward distribution to **IMS only**. (Pharmoutcomes has its own feed to GP systems – I101) Demographics, vaccination outcome information, consent to treatment (note there is no accompanying adverse reactions flow)

C12d Extended Attributes from settings supported by Pharmoutcomes to NHS Digital	Vaccination centres supported by Pharmoutcomes	NHS Digital	MESH	Real-time	**NHS Digital:** Functional Specification for capture of Extended Attributes, Vaccination Location and Care home details at Point Of Care v2.0 Technical Specification for Extended Attributes at Point Of Care to NHS Digital v1.3	Extended Attributes: • Carer • Social care worker • Health care worker • Care home worker • Care home resident • Ethnic category Vaccination location Care home details
A1d: Adverse reactions from settings supported by Pharmoutcomes to NHS Digital	Vaccination centres supported by Pharmoutcomes	NHS Digital	MESH	Real-time	**NHS Digital:** Adverse Reactions Technical specification for Supplier to NHS Digital delimited extract V0.3 (draft) [* obtain approved version]	Collate adverse reactions from other vaccination providers for onward distribution to **GPs.** Note – there is no requirement for recording adverse reactions in IMS.
I1e: Immunisations from settings supported by EVA Healthcare to NHS Digital	Vaccination centres supported by Pharmoutcomes	NHS Digital	MESH	Real-time	**NHS Digital:** Vaccination Technical specification for Supplier to NHS Digital delimited extract v3.0	Collate immunisations from settings supported by Pharmoutcomes for onward distribution to **IMS only**. (Pharmoutcomes has its own feed to GP systems – I101) Demographics, vaccination outcome information, consent to treatment (note there is no accompanying adverse reactions flow)
C12e Extended Attributes from settings supported by EVA Healthcare to NHS Digital	Vaccination centres supported by Pharmoutcomes	NHS Digital	MESH	Real-time	**NHS Digital:** Functional Specification for capture of Extended Attributes, Vaccination Location and Care	Extended Attributes: • Carer • Social care worker • Health care worker • Care home worker • Care home resident

					home details at Point Of Care v2.0 Technical Specification for Extended Attributes at Point Of Care to NHS Digital v1.3	• Ethnic category Vaccination location Care home details
A1e: Adverse reactions from settings supported by EVA Healthcare to NHS Digital	Vaccination centres supported by Pharmoutcomes	NHS Digital	MESH	Real-time	**NHS Digital:** Adverse Reactions Technical specification for Supplier to NHS Digital delimited extract V0.3 (draft) [* obtain approved version]	Collate adverse reactions from other vaccination providers for onward distribution to **GPs.** Note – there is no requirement for recording adverse reactions in IMS.
NHS Digital TO IMS						
I1: Accept Immunisations from Non-GP immunisers via NHS Digital (I1a – I1d)	NHS Digital	IMS	MESH	Daily	NHS Digital will receive the data as per their own spec, and transform it to our CSV format (see I1a, I1b, I1c, I1d): **Graphnet:** Flu Only: "Graphnet Feed Spec - Immunisations CSV v2.3.docx" COVID or Flu: "Graphnet Feed Spec - Immunisations CSV v3.1.docx"	Where an immunisation has been recorded in a Pharmacy, the pharmacy system can send a CSV file to us with details of the Immunisations. If other non-pharmacy systems can use this CSV format message over MESH, they can use this channel also. Provide reporting on progress in vaccination by cohort Provide vaccination status/history to Booking Service

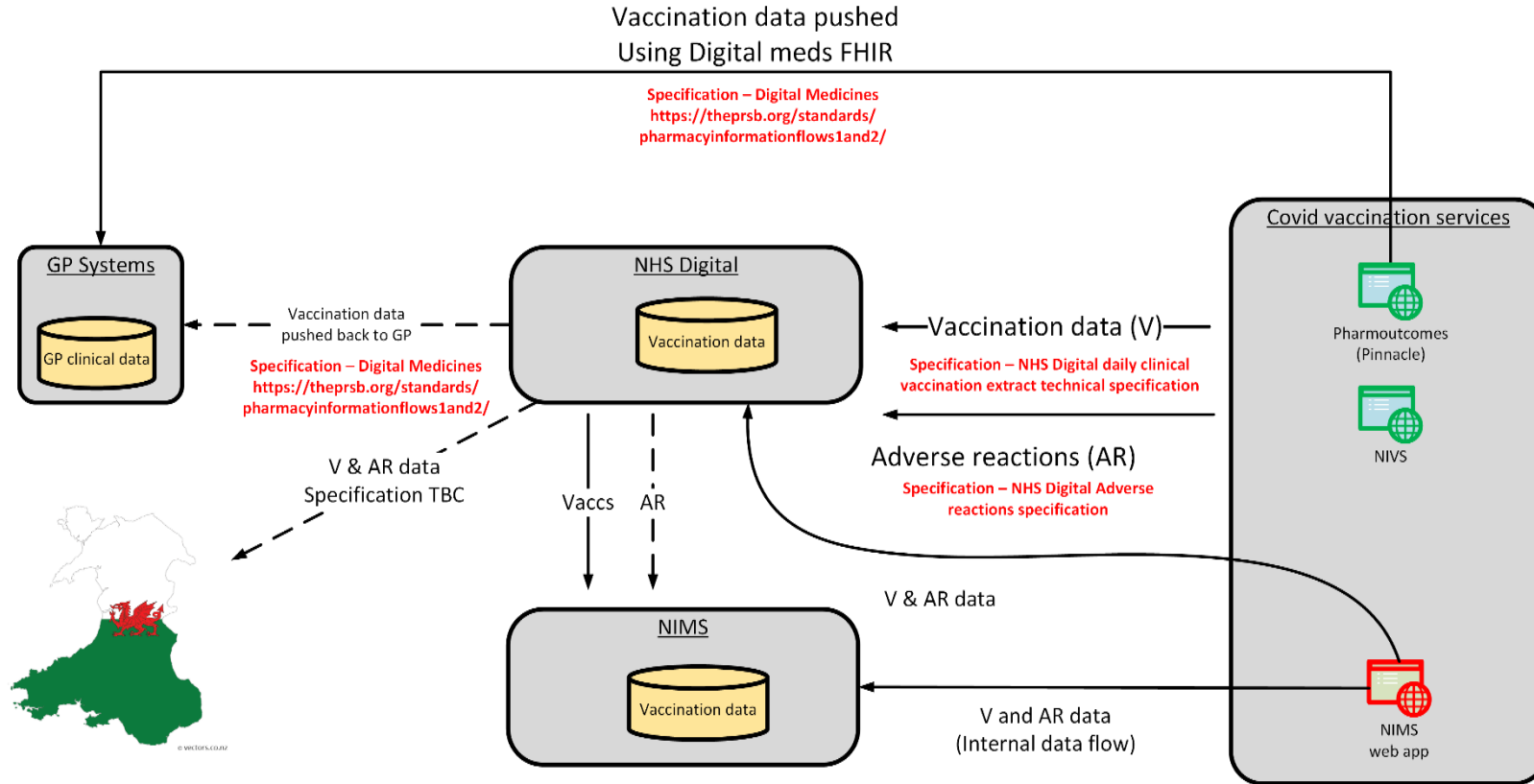|						
C12 Extended Attributes from Non-GP Immunisers via NHS Digital (C12a – C12d)	NHS Digital	IMS	MESH	Daily	**NHS Digital:** Functional Specification for capture of Extended Attributes, Vaccination Location and Care home details at Point Of Care v2.0 Technical Specification for Extended Attributes at Point Of Care to NHS Digital v1.3 (Graphnet are using NHS Digital's specification)	Extended Attributes: • Carer • Social care worker • Health care worker • Care home worker • Care home resident • Ethnic category Vaccination location Care home details
A1: Adverse Reactions from External Systems via NHS Digital (A1a – A1e)	NHS Digital	IMS	MESH	Daily	NHS Digital will receive the data as per their own spec, and transform it to our CSV format: **Graphnet:** "Graphnet Feed Spec - Adverse Reactions CSV v1.0.docx"	Where an adverse reaction has been recorded in an external system (e.g. Pharmacy), the system can send a CSV file to us with details of the adverse reaction. Provide fall back option to MHRA in event vaccination event data in CPRD dataset is delayed or insufficient Provide operational reporting on adverse reaction against other factors
Providers To IMS						
I3: Provide a Web Front-End to allow manual recording of Immunisations and adverse reactions	Immuniser (NIMS Web App)	IMS	Internal flow	Real-time	See System Architecture for an overview of this NIMS client application.	Real time data entry tool for manual recording of immunisations and adverse reactions directly in to IMS

In cases where Immunisations are being administered in settings without a clinical system able to send data back electronically, there will be a simple web interface to allow data to be entered directly. This will include a data entry form to capture details of patients immunised and details of the immunisation given (or not given with a reason).						Captures and puts in own database, creates a record in IMS and pushes to NHS Digital (I5a and A2).
I4: Administer Invites to use NIMS Client To reduce the risk of misuse, the web interface for manually recording immunisations will only be accessible to users who have been invited by email. We will need to administer and load the list of valid user email addresses to grant access. Once invited, users will be able to use an existing Microsoft account, or a 1-time password to gain access. The CSU will be given access to administer users in a new Azure Active Directory, which they can administer via the Azure	CSU	IMS	Via the Azure Portal	Ad-hoc	N/A	Access management

Portal. Users can be added individually, or in bulk using an uploaded list in the portal.						
IMS to NHS DIGITAL						
I5: Send Imms back to the GP (via NHS Digital)	IMS	GP Practices via NHS Digital	MESH	Daily	**NHS Digital:** "NHS Digital daily clinical vaccination extract technical specification v3.0 APPROVED.docx"	Information about new Immunisations what have been administered will be sent back to the GP so they can update their records accordingly. This will only include immunisations from sources not already received via NHS Digital.
A2: Send Adverse Reactions back to the GP (via NHS Digital)	IMS	GP Practices via NHS Digital	MESH	Daily	**NHS Digital:** "NHS Digital daily adverse reaction extract technical specification v1.0 APPROVED.docx"	Information about new Adverse Reactions that have been recorded will be sent back to the GP so they can update their records accordingly. This will only include data from sources not already received via NHS Digital.
NHS DIGITAL TO GP SYSTEMS						
I5b Send Imms and adverse reactions from NHS Digital to GP Systems [Dotted line in diagram below indicates pending completion for adverse reactions]	NHS Digital	GP Systems	Pushed using Digital meds FHIR received via MESH	Daily	**Digital Medicines** https://theprsb.org/standards/pharmacyinformationflows1and2/	Update GP records with vaccinations administered in settings supported by NIVS / NIMS App – not for Pinnacle (NHSE instance) or community pharmacies which have their own feeds to GP systems).
NHS DIGITAL TO WALES (TBC)						

Vaccination and adverse reactions to Wales (TBC) [Dotted line in diagram below indicates pending completion for data flow to Wales]	NHS Digital	Wales	TBC	TBC	**Specification TBC**	**We need to cater for Welsh GP registered individuals in the following circumstances:** 1. Inpatients and outpatients in English Hospital Hubs 2. Health care workers in English Hospital Hubs 3. Health and social care workers in Vaccination Centres 4. Health and social care workers in PCN model **Welsh GP registered individuals:** 1. Should not be in scope of national call and recall 2. Should not be able to use national booking service except via the self-declaration route if/until we agree to allow health and social care workers employed in England to use Vaccination Centres **Individuals who have no registered GP practice but have an NHS number:** 1. Should be treated as English registered patients
PROVIDERS TO GP SYSTEMS						
I101: Send Imms recorded in vaccination centres (Pharmoutcomes) to GP Systems	Pharmoutcomes (Pinnacle)	GP Systems	Pushed using Digital meds FHIR received via MESH Or PDF over e-mail mainly for	Daily	**Digital Medicines** https://theprsb.org/standards/pharmacyinformationflows1and2/	Update GP records with vaccinations administered in vaccination centres supported by Pinnacle Pharmoutcomes instance provided by NHS England. This includes adverse reactions.

			Vision and Eva GP Practices			

Vaccinations data flow

Vaccination data pushed
Using Digital meds FHIR

**Specification – Digital Medicines
https://theprsb.org/standards/
pharmacyinformationflows1and2/**

GP Systems

GP clinical data

Vaccination data
pushed back to GP

**Specification – Digital Medicines
https://theprsb.org/standards/
pharmacyinformationflows1and2/**

NHS Digital

Vaccination data

Vaccination data (V)

**Specification – NHS Digital daily clinical
vaccination extract technical specification**

Adverse reactions (AR)

**Specification – NHS Digital Adverse
reactions specification**

V & AR data
Specification TBC

Vaccs   AR

V & AR data

Covid vaccination services

Pharmoutcomes
(Pinnacle)

NIVS

NIMS
web app

NIMS

Vaccination data

V and AR data
(Internal data flow)

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EXTRACTS AND REPORTING

Content	Sender	Recipient	Mode / Security	Frequency	Specification	Data justification
R1: Management Reports The BI solution within the IMS will provide the ability to report on cohorts, immunisations, bookings, unbooked/unvaccinated patients etc. by region as part of the cohort selection and immunisation targeting process. Note: This will be de-identified data.	IMS	SCW CSU	Power BI	Ad-hoc – data updated at least daily.	N/A	Oversight and management of immunisation programmes.
R2: Extract of Patient-level Imms Data for NHS Foundry There needs to be an extract of data on immunisations to feed into a new COVID 19 reporting solution. These will be sent to NHS England Data Services team, who will anonymise before sharing with NHS Foundry.	IMS	NHS England Data Services	Automated copy to NHS England Azure Storage Account	Weekly	NHS COVID-19 Datastore Feed.docx	See privacy notice entry for COVID-19 datastore: https://www.england.nhs.uk/contact-us/privacy-notice/how-we-use-your
R3: Extract of Aggregated Imms Data for ImmForm and NHS Foundry There needs to be an extract of data on immunisations to feed into	IMS	ImmForm / NHS England Data Services	sFTP	Weekly	XML Extract File	Aggregate data for analysis and planning purposes.

PHE's ImmForm system. This will be aggregate data. The same feed will also go to the NHS England Data Services team for sending on to NHS Foundry.						
R4: Regular Extract of NIMS Client Data	IMS	NHS England Data Services	Automated copy to NHS England Azure Storage Account	Hourly	TBC	To provide more frequent updates to uptake dashboards, data captured in the NIMS client is sent to NHS England Data Services (and on to Foundry) hourly.
R5: Employer Dashboards	IMS	Trusts using the NIMS Client	Power BI	Updated hourly	NIMS Dashboards and Reporting Data Processing (Workforce) v0.3	Only available to Trusts onboarded to the NIMS client and have sent a workforce file (D4) The BI solution within the IMS will provide the ability for employers using the NIMS client to report on uptake in their trust. **<u>Flu vaccination uptake report COVID vaccination uptake report</u>** **Aggregate population level analysis of Flu and Covid vaccination uptake**. This report requires access to be defined at commissioner level so CCG/PCN or practice ODS codes must be provided to define access to the correct population. Flu Vaccine Uptake Report This report is accessed using the 'IMS Reporting' App. Access is secured at CCG, PCN or Practice level. This report provides aggregate level population reporting with the ability to drill to practice and ward level granularity.

						COVID Vaccine Uptake Report This report is accessed using the 'IMS Reporting' App. Access is secured at CCG, PCN or Practice level. This report provides aggregate level population reporting with the ability to drill to practice and ward level granularity. **Flu Vaccine Workforce Status** **COVID Vaccine Workforce Status** **Aggregate and person level analysis of Flu and Covid vaccinations in the workplace.** This report includes person identifiable data and requires access to be defined to an organisation ODS code level. Flu Vaccine Workforce Status This report is accessed using the 'IMS Workforce status' App and is available for those organisations supplying a workforce file to NIMS. Access is secured at Organisation level (e.g. NHS Trust). High level statistics of Flu vaccinations by staff type are available to give an organisation the ability to view vaccination status within their organisation. **The report allows drill down to person identifiable level and person details can be exported.** COVID Vaccine Workforce Status This report is accessed using the 'IMS Workforce status' App and is available for those organisations supplying a workforce file to NIMS Access is secured at Organisation level (e.g. NHS Trust). High level statistics of Covid vaccinations by staff type are available to give an organisation the ability to view vaccination status within their organisation. **The report allows drill down to person identifiable level and person details can be exported.**

						NIMS Web App Reporting – NIMS COVID Vaccination History This report provides person level detail of the vaccinations recorded in the NIMS Web App. This report includes person level data of all vaccinations recorded and access is provided at an organisation level.
R6: Vaccination Site Dashboards	IMS	Vaccination Sites using the NIMS Client	Power BI	Updated hourly	N/A	The BI solution within the IMS will provide the ability for Vaccination Sites using the NIMS client to report on data captured in their vaccination site.
DATA SHARED WITH OTHER ORGANISATIONS						
PHE1: Public Health England (PHE) dataset (PHE is an executive agency sponsored by the Department of Health and Social Care)	IMS	PHE	sFTP	Weekly	Covid Immunisation Technical specification for Arden & GEM CSU to External Organisation delimited extract v0.1 or later (includes NHS Number, age, gender, vaccination details (e.g. product and batch) and high level residence location (not postcode).	PHE monitoring of vaccine coverage, vaccine safety and vaccine failures vaccine effectiveness Identifiable individual level data is required for vaccine failures and individuals will be identified based on positive test results soon after a vaccination therefore this data will be linked to test result data by PHE. Those who have had a vaccine failure need to be followed up quickly to establish if there has been mild disease or if there are any trends in those who experience vaccine failures.
JBC1: Joint Biosecurity Centre (JBC)	IMS	JBC			Covid Immunisation Technical specification for Arden & GEM CSU to External	The JBC is a directorate of the DHSC, combining epidemiological expertise and analytical capability to provide analysis and insight on the status of the COVID-19 epidemic in the UK as well as the

(The JBC is a directorate of the Department of Health and Social Care)					Organisation delimited extract v0.1 or later (includes NHS Number, age, gender, vaccination details (e.g. product and batch) and high level residence location (not postcode).	drivers and risk factors of transmission. This insight supports decision-makers at a local and national level to take effective action to break the chains of transmission, and in turn, protect the public. The JBC also collects, collates and analyses data, which it uses to advise the Chief Medical Officers on appropriate alert levels. Further information regarding the JBC, its role and its use of data is available at https://www.gov.uk/government/groups/joint-biosecurity-centre#about-the-jbc.
TRE1: Trusted Research Environments (TREs) (TREs are operated by the Office for National Statistics (ONS) and Health Data Research UK (HDRUK))	IMS	ONS / HDRUK	ONS MOVEit		Covid Immunisation Technical specification for Arden & GEM CSU to External Organisation delimited extract v0.1 or later (includes NHS Number, age, gender, vaccination details (e.g. product and batch) and high level residence location (not postcode).	To make de-identified NIMS COVID-19 vaccination data available for scientific research and statistical analysis purposes through the ONS Secure Research Service (SRS) to Accredited Researchers including those working for the Accredited Projects of SPI-M members, AND To link the vaccination data to other data held by ONS, as approved by the relevant Controllers on a case by case basis. The purpose of each research project will be subject to the Accreditation of the Research Accreditation Panel according to the criteria established by the Digital Economy Act's Research Code of Practice, and will be published in accordance with that Code. Projects enabled by this agreement are listed below: • The Community Infection Study is a large, random-sample household based study of Covid-19 incidence. It is of considerable scientific research value to link the CIS data with vaccination data to better inform policy decisions made on the basis of incidence rates tracked through this study. Participants

							in the CIS do so on a voluntary basis and are informed on the intent to use these to link their data from the study with other data sources (see study protocols which can be found here: https://www.ndm.ox.ac.uk/covid-19/covid-19-infection-survey/protocol-and-information-sheets). This agreement enables ONS to perform the link to NIMS vaccination data and to anonymise the resulting liked data such that the data can be used by Accredited Researchers, including the ONS's research partners in the Community Infection Study, Oxford University; and the Joint Biosecurity Centre, subject to the approval of the Research Accreditation Panel.
							• The ONS has produced a de-identified, linked analytical dataset drawing together information on socio-demographic characteristics from the 2011 Census, death outcomes from death registrations, hospitalisation due to COVID-19 and information on comorbidities from NHS HES and GPES datasets. This dataset has enabled urgent analysis to determine population-level relative risk for different Covid-19 outcomes for different people. It is of significant research value to include vaccination data in the ONS COVID-19 risk models. This allows for research models using vaccination data as: (i) the exposure of interest (i.e. is vaccination associated with reduced risk of adverse outcomes); (ii) a confounder to be controlled for (i.e. does the relationship between socio-economic exposure and outcome still hold after controlling for vaccination status); and (iii) an outcome (i.e. are certain socio-demographic

						groups more/less likely to take-up vaccination). Names are required for clinical safety reasons.	
SPI-M1: SPI-M (SPI-M are an independent group set up by the Government to support SAGE with COVID.)	IMS	SPI-M (via PHE)				Covid Immunisation Technical specification for Arden & GEM CSU to External Organisation delimited extract v0.1 or later(includes NHS Number, age, gender, vaccination details (e.g. product and batch) and high level residence location (not postcode).	Support Scientific Advisory Group for Emergencies (SAGE).
MHRA1:MHRA dataset – immunisations and adverse reactions	NHS Digital	MHRA	MESH			CPRD Feed Spec - Immunisations CSV v0.3 Adverse Reactions Technical specification for NHS Digital to CPRD .csv extract v1.0 approved	MHRA needs NIMS data for two purposes 1. Firstly, to analyse their Yellow Card report which is the NIMS data vaccine counts which PHE are supplying. 2. Secondly MHRA need the vaccine data in the GP record for their Rapid Cycle Analysis using CPRD and because this isn't happening in a timely way the vaccine data was going to be linked directly to the CPRD. *PATIENT-ID - Populated from linkage with a mapping file (updated quarterly) that is supplied to NHS Digital. Linkage will be on NHS_NUMBER and DOB only for initial file(s). This can be reviewed once matching rates are known.*

						The ID is a CPRD ID (pseudonym) similar to the NCDR pseudonym. It doesn't allow MHRA to re-identify the data but allows them to link the data for their purposes.
PIN1: PID Extracts from Pinnacle Outcomes4Health/Pharm outcomes	Pinnacle (Outcomes 4Health/Ph armoutcom es)	Pinnacle (Outcomes 4Health/Ph armoutcom es) PID extract authorised users (	System controls	On request	Covid-19 Vaccination Technical Specification for Site Reporting v0.03 or later	**PID Report** For a local vaccination site to conduct second dose COVID vaccination recall for patients vaccinated at their site, the site needs to be able to identify individual patients for direct care purposes. Access control process in accordance with Process for Pinnacle Reporting V3.1: Covid-19 Vaccination Site Reporting: User Access Control Process Dataset includes ID number for this vaccination event Person Full Name Person Address Person Date of Birth Person NHS number entered Person Postcode Vaccination details Adverse reactions details Extended attributes as per C12 The extract includes only data from records created by the vaccination site.
PIN2: Pseudonymised Extracts from Pinnacle	Pinnacle (Outcomes 4Health/Ph	Pinnacle (Outcomes 4Health/Ph	System controls	On request	Covid-19 Vaccination	**Pseudonymised Report** Outcomes4Health can produce pseudonymised reports which can be analysed to produce

Outcomes4Health/Pharm outcomes	armoutcomes)	armoutcomes) PID extract authorised users			Technical Specification for Site Reporting v0.03 or later	aggregate reports, which should meet secondary use reporting requirements without the need to reveal patient identities. Users who have the role 'Site Administrator' assigned in Pinnacle and can grant user access to this report within Outcomes4Health. Dataset includes ID number for this vaccination event (pseudonym) Vaccination details Adverse reactions details Extended attributes as per C12 The extract includes only data from records created by the vaccination site.
BI1: Behavioural Insights pseudonymised dataset representing booking and vaccination status of patients sent SMS in differential message trial	IMS	Behavioural Insights	NHSMail Egress large file transfer		Specified in DPA • ID (pseudonym – anonymous to BI) • Message • Timestamp first message sent • Timestamp appointment booked • First appointment date • Received first-dose vaccine • Age • Gender • Ethnicity	**Objectives** Which BI informed text message will maximise the likelihood of booking a COVID-19 vaccination appointment and receiving first-dose vaccination? The primary outcome will be the booking rate within 72 hours of receiving the SMS and the secondary outcome will be the first dose vaccination rate within 14 days of receiving the SMS A unique pseudonym ID is required to enable linkages when updates are received relating to the same patient, without revealing their identity.

Scale and constituency(ies)

What is the scale of the processing? i.e. approximately how many people will be the subject of the processing	All patients resident in England and those registered with a GP in England
Please describe the constituency(ies).	Population of England – the system will be pre-populated with the demographics from PDS for all patients resident in England and those registered with a GP in England. Cohorts will be selected for invitation in accordance with established criteria.

Outcomes

What will be the effects of the processing? i.e. what actions/decisions will result from the processing	People will be called and recalled for vaccination according to priorities determined through use of the data. The solution will use vaccination data to manage conflicts between different vaccinations, thereby improving clinical safety.

Purpose(s) and legal basis(es) of the processing

Only complete if sole controller, select all that apply.

Lawful Basis	Processing Condition	Applies	Rationale
The processing is necessary for a task that is within our remit as a public authority. *Please describe NHS England or NHS Improvement's statutory powers that permit processing of the personal data.*	GDPR Article 6(1)(e)	Yes	<u>NHS England's exercise of the Secretary of State's public health functions</u> National Health Service Act 2006, c. 41, Part 1, Exercise of Secretary of Secretary of State's public health functions, Section 7A and sections 2, 2A, 2B and 12 of the 2006 Act so as to provide or secure the provision of s.7A services (as described in paragraph 1.3) NHS England was established as the National Health Service Commissioning Board by section 1H (1) of the 2006 Act. NHS England is a commissioning organisation, as made clear by its principal functions set out in section 1H(3) of the 2006 Act NHS Public Health Functions Agreement 2019-20, Public health functions to be exercised by NHS England dated December 2019 describes what is to be included. List A1: Services to be provided pursuant to this agreement Immunisation programme • Seasonal influenza immunisation programme • Seasonal influenza immunisation programme for children Should additional programmes be added to the National Immunisation Management Service and the programme is not included within this functions agreement then alternative Statutory Powers or duties will be identified. <u>NHS England's management of the patient list</u> Basis for NHS England's processing of a copy of the PCRM list in IMS for the exercise of the public health functions – including the IMS and preparing infrastructure for the COVID-19 response:

Lawful Basis	Processing Condition	Applies	Rationale
			Paragraph 14 of Schedule 6 of The National Health Service (General Medical Services) 2004 [SI 2004/291] as amended by Regulation 27(8) The National Health Services (Primary Medical Services) (Miscellaneous Amendments and Transitional Provisions) Regulations 2013

NHS Act 2006 S.2 General Powers
The Secretary of State, the Board or a clinical commissioning group may do anything which is calculated to facilitate, or is conducive or incidental to, the discharge of any function conferred on that person by this Act.

Processing of Confidential Patient Information for the purposes of the NIMS
The Health Service (Control of Patient Information) Regulations 2002 – regulation 3(1) and 3(3)(c) |
| We are under a legal obligation to carry out the processing.

Please describe the legal obligation (e.g. legal obligation to disclose employees' payments and deductions to HMRC). | GDPR Article 6(1)(c) | No | |

Lawful Basis	Processing Condition	Applies	Rationale
The processing is necessary for the arrangement or fulfilment of a contract between us and the subject(s) of the personal data. *Please describe the contract to be fulfilled (e.g. recruitment and management of staff contracts).*	GDPR Article 6(1)(b)	No	
We will be seeking, and recording, freely given, specific and informed consent[4] to the processing. *Please be aware that the definition of consent for GDPR purposes is very rigorous and supply a copy of the draft consent form or describe the consent mechanism to be used.*	GDPR Article 6(1)(a)	No	
The processing is necessary in an emergency situation to protect the life or safety of any person. *Please describe the situation (e.g. disclosing patient contact information to third parties to facilitate emergency care following a natural disaster), noting that this basis should be used only where the processing cannot be based on another legal basis.*	GDPR Article 6(1)(d)	No	

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[4] 'consent' of the data subject means any freely given, specific, informed and unambiguous indication of the data subject's wishes by which he or she, by a statement or by a clear affirmative action, signifies agreement to the processing of personal data relating to him or her – this must be demonstrable by NHSE

Lawful Basis	Processing Condition	Applies	Rationale
The processing is necessary in the legitimate interests of NHSE or a third party. *Please describe the legitimate interest(s), noting that such interests cannot be used as a basis for our statutory activities, but may be used for incidental tasks. You should also explain why and how they are not in conflict with the interests, rights or freedoms of the subjects of the personal data.*	GDPR Article 6(1)(f)	No	

Special categories of personal data

Select all the special categories of data that may be processed.

Racial or ethnic origin	Yes
Political opinions	No
Religious or philosophical beliefs	No
Trade union membership	No
Genetic data[5]	No
Biometric data[6]	No
Data concerning health[7]	Yes
Data concerning the sex life or sexual orientation of the data subjects	No

If there are no special categories of data processed, please skip the following section and proceed to the 'Common law duty of confidentiality' section.

Where processing special categories of data, indicate the lawful basis for its processing using the table below, selecting all that apply.

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[5] 'genetic data' means personal data relating to the inherited or acquired genetic characteristics of a natural person which give unique information about the physiology or the health of that natural person and which result, in particular, from an analysis of a biological sample from the natural person in question

[6] 'biometric data' means personal data resulting from specific technical processing relating to the physical, physiological or behavioural characteristics of a natural person, which allow or confirm the unique identification of that natural person, such as facial images or dactyloscopic data

[7] 'data concerning health' means personal data related to the physical or mental health of a natural person, including the provision of health care services, which reveal information about his or her health status

Lawful Basis	Processing Condition	Applies	Rationale
We will be seeking explicit consent to undertake the processing.	GDPR Article 9(2)(a)	No	
The processing is required in the field of employment, social security or social protection law.	GDPR Article 9(2)(b)	Yes	Equalities monitoring: Equalities Act 2010, public sector equality duty
The processing is necessary in an emergency situation to protect the life or safety of any person where the data subject cannot consent.	GDPR Article 9(2)(c)	No	
The data subject has put the personal data in the public domain.	GDPR Article 9(2)(e)	No	
The processing is necessary for legal claims or to the Courts.	GDPR Article 9(2)(f)	No	
The processing is necessary for reasons of substantial public interest.	GDPR Article 9(2)(g)	No	
The processing is necessary for health or social care purposes.	GDPR Article 9(2)(h)	Yes	DPA2018 Schedule 1 Part 1 para. 2 Health or social care purposes
The processing is necessary for public health purposes.	GDPR Article 9(2)(i)	Yes	DPA2018 Schedule 1 Part 1 para. 3 public health
The processing is necessary for archiving in the public interest, scientific or historical research purposes or statistical purposes.	GDPR Article 9(2)(j)	Yes	

Common law duty of confidentiality

Are any of the data subject to a duty of confidentiality (e.g. clinical records, OH details, payroll information)? If so, please specify them.	Yes		
Where it is planned to disclose such data, what are the grounds for doing so?	Consent	No	Please describe
	Safeguarding	No	Please describe
	Other overriding public interest	No	Please describe
	Legal duty or permissive power (e.g. s251 support, court order)	Yes	<u>NHS England – power to receive and process confidential patient information</u> NHS England is processing Confidential Patient Information for the purposes of the NIMS under The Health Service (Control of Patient Information) Regulations 2002 – regulation 3(1) and 3(3)(c) This power applies to NHS England's dissemination of confidential patient information to Public Health England

| | | | (The data disseminated to MHRA (CPRD) is pseudonymised)

Health organisations – power to disclose confidential patient information
Under the provisions of the COPI Notice, issued by the Secretary of State for Health and Social Care, NHS organisations are legally required (not just 'requested') to provide confidential patient information about patients and, where relevant (e.g. the vaccination programme), staff to support the response to the pandemic. This includes the flu and COVID-19 vaccination programme.

The COPI notice specifically states that confidential patient information can be shared to support:

"understanding …. about patient access to health services and adult social care services and the need for wider care of patients and vulnerable groups as a direct or indirect result of COVID-19 and the availability and capacity of those services or that care."

And can be relied on for reasons, including:

- It is critical that we reduce ill health and complications from flu and as far as possible avoid outbreaks, particularly when the NHS is already dealing with the coronavirus pandemic.
- Failure to manage flu, and its impact on the NHS, will reduce the capacity of the health and care system to treat patients infected with COVID-19. |

			• It is important to monitor take-up of the flu vaccine by staff and the potential impact staff absence might have on the capacity of health and care organisations to manage COVID-19. • Being forewarned about the risks that flu might pose to the health and care system is necessary to support planning for the response to COVID-19. The general COPI notice can be accessed here: https://www.gov.uk/government/publications/coronavirus-covid-19-notification-of-data-controllers-to-share-information/coronavirus-covid-19-notice-under-regulation-34-of-the-health-service-control-of-patient-information-regulations-2002-general
If the processing is of data concerning health or social care, is it for a purpose other than direct care[8]?	Yes - Monitoring and reporting on the uptake of the vaccination.		

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[8] direct care: a clinical, social or public health activity concerned with the prevention, investigation and treatment of illness and the alleviation of suffering of individuals. It includes supporting individuals' ability to function and improve their participation in life and society. It includes the assurance of safe and high quality care and treatment through local audit, the management of untoward or adverse incidents, person satisfaction including measurement of outcomes undertaken by one or more registered and regulated health or social care professionals and their team with whom the individual has a legitimate relationship for their care.

Consultation

Would it be appropriate to seek the views of data subjects or their representatives on the proposed processing?	No
If Y, how will this be done?	
If N, why is this the case?	Urgent implementation in the context of the COVID-19 pandemic.
Would it be helpful to seek advice from independent experts (clinicians, security experts, ethicists etc.) where their specialist knowledge would be useful in understanding and managing privacy risks?	Yes
If Y, how will this be done?	We have consulted the ICO informally.
Will any other stakeholder(s) (whether internal or external) need to be consulted about the proposed processing (e.g. NHSE Central team, Public Health England, NHS Digital, the Office for National Statistics)?	This DPIA has been shared with NHS Digital and Public Health England.
What was/were the outcomes(s) of such consultation?	High level feedback from the ICO on purpose and necessity, confidentiality, transparency information, secondary uses.

Data processor[9]

Will the processing be wholly or partly performed on our behalf by a data processor(s)?	Yes
If Y please give details	System C Healthcare Ltd Graphnet Care Alliance (sub-processor) NHS Digital Synertec (mailing service) Pinnnacle (Pharmoutcomes point of delivery collection tool)
Where is the data to be processed by the data processor?	In UK

If the processing is not completed by a data processor, please ignore the following questions and proceed to the 'Collection of personal data' section.

What assurance has been/will be sought about the/each processor's compliance with the GDPR?	System C has completed processor checklist
Will the contract use NHS England's standard data processing agreement template?	System C – no NHS Digital – no Synertec – no Pinnacle – yes
Has a draft or final copy of the data processing agreement been supplied with this DPIA? If No, please explain.	System C – yes NHS Digital – yes Synertec – yes Pinnacle – yes

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[9] 'processor' means a natural or legal person, public authority, agency or other body which processes personal data on behalf of the controller

Will the contract contain standard clauses to require compliance with the GDPR?	System C – yes NHS Digital – yes Synertec – yes Pinnacle – yes
Will the contract contain clauses to address the secure transfer of the personal data to a successor data processor should this become necessary or upon the expiry of the term?	System C – delete or return NHS Digital – delete or return Synertec – delete or return Pinnacle – delete or return

Collection of personal data

Will personal data be collected from the data subject?	No
Will personal data be obtained from sources other than the subject?	No
Will personal data be collected from a third party(ies)?	Yes
If Y, please identify the third party(ies)?	NHS Digital
Is the provision of personal data obligatory or voluntary?	Obligatory – for controllers providing the data
If obligatory, why/how is that the case?	Data are collected by NHS Digital for Primary Care Registration Management (PCRM) and the GP

	Extraction Service (GPES) under directions from NHS England. For the provision of data by health providers – see common law duty of confidentiality section.
What are the possible consequences for a data subject if there is a failure to provide the requested personal data?	Failure to be invited for vaccination.

Privacy information

Does NHS England and NHS Improvements central privacy notice already describe this processing?	Yes
Will the NHS England and NHS Improvement central privacy notice be updated to describe this processing?	Yes
Will local privacy information be made available to data subjects in addition to the central privacy notice (required where information will be collected directly from data subjects)? If so, please provide a draft of the proposed privacy information.	Yes – invitation letters state controller responsibilities and provide a link to the online privacy notice is provided in letters

Accuracy of personal data

How will we ensure the accuracy of the personal data (including their rectification or erasure where necessary)?	The Data Feeds include very mature data validation and cleansing scripts, built up through experience with the data and supported by audits by NHS Digital.
How will we monitor the quality of the personal data?	Through data validation and data quality reports, automatically generated every time data is refreshed.

Subject access and data subjects' rights

How will it be possible to provide a copy of the personal data processed about a particular individual to them (redacted as necessary) should they request access to this information? (If you are purchasing an information management system, you should consider including requirements in the specification about searching and subject access requests.)	Citizens can make a Subject Rights Request in line with NHS England's policy and contacting england.dpo@nhs.net.
What processes will be put in place to ensure that other data subjects rights can be appropriately applied to the personal data if necessary?	As above.

Data sharing (other than between NHSE and NHSI)

Will some or all of the personal data be shared with a third party (other than NHSE / NHSI and data processors)	Yes, GP Practices informed of vaccinations given. For others see data flows: PHE, JBC, MHRA.

If No, please skip outflows in the next section (see data flows above)

If Y, will the personal data be disclosed to a recipient(s) in a country outside the EEA or an international organisation?	No

Risks

What are the identified risks of the processing? Please complete risk register attached.

Incident reporting

What plans are in place in relation to the internal reporting of a personal data breach? (NB Unless the personal data breach is unlikely to result in a risk to the rights and	NHSE / CSU incident reporting procedure and Deputy DPO Risk Escalation Framework NHS England have a standard process and are working with analysts to set up a process whereby they will log incidents of inadvertent

freedoms of the individual(s), it will normally need to be reported to the ICO within 72 hours.)	re-identification of de-identified data to ensure lessons are learned. Given the current controls the risk of re- identification remains unlikely without unreasonable effort.
What plans are in place in relation to the notification of data subjects should there be a personal data breach? (NB Where a personal data breach is likely to result in a high risk to the rights and freedoms of the individual(s), they should be notified as soon as reasonably feasible and provided with any recommendations to mitigate potential adverse effects.)	NHSE & CSU incident reporting Procedure and Deputy DPO Risk Escalation Framework

Business continuity planning

How will the personal data be restored in a timely manner in the event of a physical or technical incident?	There are several aspects to this implementation, some of which are either newly developed or new to Azure. Disaster Recovery Plans will be reviewed and updated as required. The Business Continuity plan will need to be reviewed for this service. However, for the backend application the following will be applicable: • Azure PITR (Point In Time Restore) backup functionality on all SQL databases, which allows data to be restored to any point in the last 7 days. Should there be a need to restore a

	database, an appropriate point in time will be agreed with customer and the database restored to that point.
	• In the event of the need to restore, an appropriate point in time will be agreed with customer then a restore will be produced from that point in time.
	• Resilience and availability levels (BCP/DR) are typically defined within the customer's contract and would be provided using the two Azure data centres, namely, UK South and UK West.
	• Microsoft Azure operates at TIA942 Tier 3 equivalence and the datacentres are engineered to provide 99.999% availability. Azure provides multiple availability zones for customers to deploy resources to ensure availability.
	• Standard Azure networking has built-in DDoS protection.

Records Management

Will corporate records be created and / or managed as a result of this processing?	Yes

Where will these records be stored?	IMS database
Is there a trained <u>Records and Information Management Coordinator (RIMC)</u> responsible for these records?	

Retention of personal data

What is/are the retention period(s) for the personal data?	Data will be retained for 6 years from the last event date and reviewed at that point to ascertain if there is a need to retain it longer.
What is the basis for this retention period? (Please indicate applicable guidance or rationale)	The Records Management Code of Practice does not specify the retention for immunisation data. The NHSE records management team have provided advice that 6 years, with review, is recommended.
Where personal data are processed outside of NHSE's premises or systems, how will they be securely returned to NHSE for the remainder of the retention period(s) as and when this becomes necessary (e.g. following the closure of the project)?	The mechanism for the either deletion or return of the data to NHSE at the end of the contract period will be agreed between the parties, but will be in line with the relevant/appropriate security standards.

Direct marketing[10]

Will any personal data be processed for direct marketing purposes?	No
If Yes, please describe how the proposed direct marketing will take place:	

Data portability

Where the processing is based on consent or due to a contract, it is carried out by automated means and the data subject has provided the personal data to us, will it be possible to provide them or a different controller with the personal data in a structured, commonly used and machine-readable format? (NB This does not apply to processing necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller – GDPR Article 6(1)(e).)	N/A

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[10] direct marketing is "the communication (by whatever means) of any advertising or marketing material which is directed to particular individuals" - all promotional material falls within this definition, including material promoting the aims of not-for-profit organisations

Automated processing

Will the processing result in a decision being made about the data subject solely on the basis of automated processing[11] (including profiling[12])?	No
If Yes, is the decision: • necessary for entering into, or performance of, a contract between the data subject and a data controller • authorised by law • based on the data subject's explicit consent?	
Please describe the logic involved in any automated decision-making.	
Please outline the significance and the envisaged consequences of such processing for the data subject.	

ICT

Will we, or the data processor(s), be using a new system to process the personal data?	Yes – the IMS described above.

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[11] examples include the automatic refusal of an online credit application and e-recruiting practices without any human intervention

[12] 'profiling' means any form of automated processing of personal data consisting of the use of personal data to evaluate certain personal aspects relating to a natural person, in particular to analyse or predict aspects concerning that natural person's performance at work, economic situation, health, personal preferences, interests, reliability, behaviour, location or movements

If Yes to the above question around new systems, please ensure that a System Level Security Policy is completed, risk assessed by ICT and attached to this DPIA before proceeding to the sign off stage below.

DPIA Review

Numbering denotes sequence of reviews

1a. Corporate ICT

Required if DPIA considers a new ICT system on NHS England and NHS Improvement's infrastructure or any ICT system on a third party's infrastructure

Summary of ICT review to be provided here. SLSP reviewed as fit for purpose (NHS Digital are reviewing security – see condition of approval)

Name	Zed Langdon-Smith
Role	Solutions Engineer (Desktop & Infrastructure)
Signature	Email to Richard Sewart 09/09/2020
Date	09/09/2020

1b. Records and Information Management
Required if processing will create corporate records

Summary of records and information management review to be provided here. Team recommended to appoint a RIMC	

Name	Sarah Graham
Role	Corporate Records Management Specialist
Signature	Email to Richard Sewart 11/09/2020
Date	11/09/2020

2. IG Management
To be completed by senior member of Corporate IG (manager or above) in all cases or a Corporate IG Senior Manager or above where processing involves identifiable data about patients
Submit to relevant Corporate IG manager

Recommend approval subject to the conditions highlighted	

Name	Richard Sewart
Role	Senior IG Specialist / DPO Support Manager
Signature	Email 25/03/2021
Date	25/03/2021

3a. Data Protection Officer

Required if processing involves risks that cannot be mitigated, processing outside of the UK or identifiable special categories of data

Submit to england.dpo@nhs.net

Summary of DPO review to be provided here. Approved	

Name	Carol Mitchell
Role	Head of Corporate Information Governance and Data Protection Officer
Signature	
Date	25/03/2021

3b. Information Commissioner's Office

Only required where DPO requests ICO review

Submit to dpiaconsultation@ico.org.uk

Summary of ICO review to be provided here.

4. Caldicott Guardian

Only required where processing involves identifiable data about NHS patients

Summary of Caldicott Guardian review to be provided here.

Approved	
Name	Professor Stephen Powis
Role	National Medical Director
Signature	
Date	22/04/2021

DPIA Approval

Senior Information Risk Owner

Senior Information Risk Owner

Decision of the SIRO:	Approved with conditions

Questions or concerns raised during SIRO review

Any additional conditions applied, beyond those identified in the risk register

	Additional Condition	**Review Date**
4	• Obtain NHSD security review (outstanding v2.3) Version 2.4 Point of care system	

• Confirmation of completion of Accelerated assurance approach for COVID-19 vaccination point of care solutions including risk register assurance sections and Clinical Safety Case	22/04/2021	
• Post go live (within 3 months of initial assessment) completion of Traceability Matrix and penetration testing and any outstanding matters permitted by the Accelerated assurance approach	22/06/2021	
SMS Invitations: Content Optimisation Trial • DPA with Business Intelligence – before go live on 23rd April	22/04/2021	

Decision of the SIRO:	Approved
Name	Mark Blakeman
Role	Director of Corporate Operations
Signature	
Date	16/04/2021