Professional Record Standards Body

Better records for better care

PHARMACY INFORMATION FLOWS: VACCINATION ADMINISTRATION AND EMERGENCY SUPPLY OF MEDICINE

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Document Management

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Reviewers

This document must be reviewed by the following people:

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This document must be approved by the following people:

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Glossary of terms

Term	Description
AUR	Appliance Use Review
Chaperone	Independent person whose role is to independently observe the patient attendance with a healthcare professional
DDM	Design Decision Matrix
dm+d	NHS Dictionary of Medicines and Devices
DMIRS	Digital Minor Illness Referral Scheme

FHIR	Fast Healthcare Interoperability Resources
FMD	Falsified Medicines Directive
GPhC	General Pharmaceutical Council
HIU	Health Informatics Unit of the Royal College of Physicians
MUR	Medicines Use Review
NMS	New Medicine Service
NPA	National Pharmacy Association
ODS	Organisation Data Service
PDS	Personal Demographics Service
PMR	Patient Medication Record
PRSB	Professional Record Standards Body for health and social care
PSNC	Pharmaceutical Services Negotiating Committee
RCGP	Royal College of General Practitioners
RPS	Royal Pharmaceutical Society
SDS	Spine Directory Service
SNOMED CT	Systematised Nomenclature of Medicine-Clinical Terms

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1. Introduction and background

1.1 Purpose

The objective of the Pharmacy Information Flows project is to develop information models for specific information flows to and from pharmacy services and other NHS services. The project is being delivered in two stages:

- Stage 1 – development of information models for the administration of vaccinations and any emergency supply of medicine given by community pharmacists with or without a prescription. A subset of the associated information which may be included in a notification to a patient's GP will be developed, mapped to appropriate Fast Healthcare Interoperability Resources (FHIR) profiles[1].
- Stage 2 – development of information models for:
    - Medicine reviews e.g. a medication review conducted within a community pharmacy (MUR), within a care home etc. This will include the information recorded in the pharmacy system and also a subset of the associated information which may be included in a notification to a patient's GP.
    - Appliance use reviews (AUR). This will include the information recorded in the pharmacy system and also a subset of the associated information which may be included in a notification to a patient's GP.
    - New medicine service (NMS). This will include the information recorded in the pharmacy system and also a subset of the associated information which may be included in a notification to a patient's GP.
    - Digital Minor Illness Referral Scheme (DMIRS). This will include the information recorded in the pharmacy system and also a subset of the associated information which may be included in a notification to a patient's GP.
    - The information to be included in a discharge summary from secondary care to pharmaceutical services in the community.

This document is the Professional Record Standards Body (PRSB) report on the draft outputs developed for Stage 1. It describes the methods used and the results of the consultation.

1.2 Background

NHS Digital has been commissioned by NHS England to support the integration of pharmacy services within health and care pathways. Their focus is on the development of data standards, which are key to the safe transfer of information. NHS Digital has commissioned the PRSB to define the information models for the pharmacy information flows project. Clinical leadership has been provided by the Royal Pharmaceutical Society (RPS), the Royal College of General Practitioners (RCGP), and NHS Digital subject matter experts. The work has been conducted in partnership with the Royal College of Physicians (RCP) Health Informatics Unit (HIU).

The background to this project is the increasingly complex requirements of today's population. This includes the rise in the number of people with long term conditions and frailer elderly people, combined with the drive to enable people to remain healthy and in their own homes. This needs an integrated response from health and social care, in which pharmacy services can play a vital part. The strategic significance of this work for pharmacy is that pharmacy expertise is brought to bear in the wider NHS, and pharmacy professional activity is made visible to NHS colleagues.

[1] FHIR is a standard for exchanging healthcare information electronically

This project will contribute to the development of national standards for electronic pharmacy information flows, which will be implemented in the NHS. The aim is to move from the current largely paper or email based communications to standardised structured digital communications, which will enable interoperability between pharmacy clinical systems and other NHS services. The anticipated benefits of this project include:

- timely sharing of clinically relevant data in relation to pharmacy services undertaken to other NHS providers
- transfer of standardised coded data sets to patients' primary care health records
- comprehensive patient health records, with the inclusion of clinically relevant outcomes from pharmacy services, which has the potential to improve medication safety and support medicines optimisation
- reduced administrative burden due to elimination of paper templates and transfer of information through non-direct routes into patients' primary care health records
- improved communication methods which support community pharmacy in providing a greater range of clinical services, which make use of their expertise and reduce the burden on other parts of the health and care system.

2. Methodology

This section describes the approach taken to develop the stage 1 outputs.

2.1. Development of first draft information models

The project team conducted an evidence review and identified the following Pharmaceutical Services Negotiating Committee (PSNC) record keeping and data requirements datasets for vaccine administration and emergency supply of medicine:

- http://psnc.org.uk/services-commissioning/advanced-services/flu-vaccination-service/flu-vaccination-record-keeping-and-data-requirements/
- http://psnc.org.uk/services-commissioning/urgent-medicine-supply-service/

The PSNC is responsible for negotiating the contract for community pharmacy services on behalf of community pharmacy contractors and therefore these datasets provided an appropriate basis for this work. These datasets were mapped to existing PRSB headings developed for other use cases, including a vaccinations information model developed for the Healthy Child Record Standard (https://theprsb.org/standards/healthychildrecordstandard/) and a medication and medical devices information model developed for the e-discharge summary from hospital to GPs (https://theprsb.org/standards/edischargesummary/). This mapping was reviewed and refined in collaboration with the project clinical leads to create the first draft information models.

2.2. FHIR curation process

NHS Digital, in collaboration with INTEROPen (https://www.interopen.org/), have developed a process for collaboratively mapping draft information models to relevant FHIR profiles. This process was used to identify appropriate FHIR profiles and involved the following steps:

1. the draft information models for vaccine administration and emergency supply of medication were uploaded to a Design Decision Matrix (DDM) spreadsheet

2. a core team composed of members of the PRSB project team, NHS Digital staff, terminologists, informaticians, health and care professionals and clinical system suppliers were recruited to map the draft information models to appropriate FHIR profiles. This mapping was added to the DDM
3. a webinar was held with a wider group of stakeholders, including health and care professionals, informaticians and clinical system suppliers to review the acceptability of the FHIR mapping (see Appendix D for illustrative use cases). Following this webinar, the draft mapping was uploaded to Ryver (https://ryver.com) for further review and feedback
4. the feedback was discussed at a core team meeting to update the DDM accordingly
5. a webinar with the wider group of stakeholders was held to approve the FHIR mapping

The FHIR process for vaccination administration ran from 16 April to 18 May 2018. The current version of the DDM containing the FHIR mappings can be accessed here: https://docs.google.com/spreadsheets/d/1PkdrXAML4z6attSrSnWF45ODFBZrjLA5PZw1R9q3Ttg/edit#gid=1790554854

The process for emergency supply of medicine ran from 08 May to 08 June 2018. The current version of the DDM containing the FHIR mappings can be accessed here: https://docs.google.com/spreadsheets/d/1PkdrXAML4z6attSrSnWF45ODFBZrjLA5PZw1R9q3Ttg/edit#gid=499653390

2.3. PRSB survey consultations

During both the development of the draft information models and participation in the FHIR curation process, the project team identified a number of issues which required further exploration. Online surveys were developed to obtain the views of health and care professionals, patients and clinical system suppliers.

The vaccine administration survey ran from 07 May – 4 June 2018. In total 250 individuals responded to the survey.

The emergency supply of medicine survey ran from 19 June – 09 July 2018. In total 255 individuals responded to the survey. This survey focused on additional emergency supply of medicine specific information (i.e. not the common information previously consulted upon in the vaccinations survey).

Quantitative and qualitative analysis of the survey results was conducted and reviewed with the project clinical leads (a summary of the online survey results and analysis are provided in Appendix A for vaccine administration and Appendix B for emergency supply of medicine).

In response to the survey consultations, the project team were approached by representatives of the PSNC and National Pharmacy Association (NPA). Subsequent meetings were arranged with both of these organisations to discuss the project in more detail.

Subsequent meetings were held with the project clinical advisors to discuss the analyses and to make decisions on updates to the final draft information models.

3. Next steps

This report has been signed off by PRSB Assurance Committee and the Pharmacy Information Flows project board. The report will be circulated to relevant professional bodies and key stakeholders to seek their endorsement before being released as a PRSB endorsed standard.

4. Appendix A – Vaccination administration survey results and analysis

This appendix provides a summary of the quantitative and qualitative analysis of the online survey results.

Survey respondents (by role)

Answer Choices	Responses	
Patient	11.60%	29
Carer	0.80%	2
Pharmacy professional	27.20%	68
General practitioner or other health professional working in general practice	37.20%	93
Other doctor	2.00%	5
Public health professional	3.20%	8
Clinical system supplier	2.00%	5
Informatician	6.40%	16
Other	9.60%	24
	Answered	**250**

Patient demographics

GP respondents were asked which of the following headings should be included in a communication to a GP. The results are provided in the following table:

	Responses	
Patient preferred name	44.44%	24
Patient telephone number	79.63%	43
Ethnicity	12.96%	7
Religion	9.26%	5
Patient email address	38.89%	21
Communication preferences	29.63%	16
Relevant contacts	27.78%	15
	Answered	**54**

A thematic analysis of the qualitative responses showed that GPs wanted this information for the following reasons:

- To ensure the practice contact details are up to date
- To know how to best contact the patient if needed

Recommendation: Only patient name, patient sex, NHS number/other identifier, date of birth, and address are required to be included in a message to GPs for matching purposes. Other demographic information can be sent as free text if deemed necessary by the pharmacist.

Patient ethnicity

Respondents were asked if it was important to record the patient's ethnicity in the community pharmacy record. The results are provided in the following table:

Answer Choices	Responses	
No	61.29%	57
Not sure	17.20%	16
Yes	21.51%	20
	Answered	**93**

Recommendation: Due to the high level of consensus, there is no need to include this heading in the information model.

Patient religion

Respondents were asked if it was important to record the patient's religion in the community pharmacy record. The results are provided in the following table:

Answer Choices	Responses	
No	80.65%	75
Not sure	8.60%	8
Yes	10.75%	10
	Answered	**93**

Recommendation: Due to the high level of consensus, there is no need to include this heading in the information model.

Person accompanying the patient

GP respondents were asked if they would be interested in knowing the person accompanying the patient. The results are provided in the following table:

Answer Choices	Responses	
Yes	28.38%	21
No	59.46%	44
Not sure	12.16%	9
	Answered	**74**

Recommendation: Although there was lack of support for this heading, subsequent discussions with the project clinical leads suggested retaining this heading as an optional field, as it may be pertinent in some instances (e.g. for children/patients who lack capacity).

Other care professionals present

GP respondents were asked if they would be interested in knowing other care professionals present. The results are provided in the following table:

Answer Choices	Responses	
Yes	41.10%	30
No	50.68%	37
Not sure	8.22%	6
	Answered	**73**

Recommendation: Due to the high level of consensus, there is no need to include this heading in the information model.

Eligibility criteria

Respondents were asked if the 'eligibility criteria' heading was acceptable. Of the 31 pharmacy professionals who responded to this question:

- 18 (58.06%) thought it was acceptable
- 9 (29.03%) thought the heading should not be included
- 4 (12.90%) thought the heading needed changing

Respondents were asked if both eligibility criteria and the clinical indication for administering the vaccine are required. The results are provided in the following table:

Answer Choices	Responses	
Clinical indication is sufficient (no need for eligibility criteria)	30.99%	22
Both clinical indication and eligibility criteria are required	38.03%	27
Eligibility criteria is sufficient (no need for clinical indication)	15.49%	11
Not sure	15.49%	11
	Answered	**71**

GPs were asked whether eligibility criteria for having the vaccination is of interest to them. The results are provided in the following table:

Answer Choices	Responses	
Yes	82.86%	58
No	14.29%	10
Not sure	2.86%	2
	Answered	**70**

Recommendation: Include both eligibility criteria and clinical indication. This is because the standard is intended to be generic and some vaccinations (e.g. seasonal flu) have specific eligibility criteria and there are some vaccinations where the clinical indication is not obvious (e.g. hepatitis B vaccination may be indicated either because the patient has an occupational risk or is travelling to a high risk area). Implementation guidance to explain that eligibility criteria should only be included where it is relevant (e.g. for flu vaccinations).

Consent

GPs were asked which of the following headings should be included in a communication to a GP. The results are provided in the following table:

	Responses	
Consent for treatment record	75%	27
Consent for information sharing	72.22%	26
Consent relating to child	88.89%	32
	Answered	**36**

A thematic analysis of the qualitative responses showed that GPs wanted this information for the following reasons:

- For patients who lack capacity
- To ensure accuracy of parental responsibility

Recommendation: All consent headings should be recorded in the pharmacy system, but only 'consent for treatment record' and 'consent relating to child' should be shared with the GP. This is because if 'consent for information sharing' is not obtained, the message should not flow to the GP (although it is recognised that for some NHS services, consent for sharing must be gained to receive the service).

Physical location of the vaccination administration

Respondents were asked if it was important to record the physical location of where the vaccination was given (where different than the organisation address). The results are provided in the following table:

Answer Choices	Responses	
Yes	73.26%	63
No	15.12%	13
Not sure	11.63%	10
	Answered	**86**

A thematic analysis of the qualitative responses provided the following themes:

- To allow for offsite business
- Only to include the location if different than the organisation address
- To differentiate between pharmacies with multiple branches

Recommendation: Due to the high level of consensus, include heading in the information model as free text. Implementation guidance should explain that this heading should only be populated if the location differs from the organisation address.

Chaperones

Respondents were asked if details of chaperones should be included. The results are provided in the following two tables:

Where a person accompanying the patient is acting as a chaperone:

	Responses	
Should be recorded by the pharmacist	61.88%	99
Should be shared with the GP	13.75%	22
No need to record or share	32.50%	52
Not sure	11.88%	19
	Answered	**160**

Where a chaperone is provided by the pharmacy:

	Responses	
Should be recorded by the pharmacist	64.38%	103
Should be shared with the GP	13.13%	21
No need to record or share	30.00%	48
Not sure	8.75%	14
	Answered	**160**

A thematic analysis of the qualitative responses identified the following themes:

- Can be recorded by the pharmacist but no need to share with GP
- Not vital information
- For safeguarding purposes
- In case of complaints

Recommendation: Include a chaperone heading in the information model. Subsequent meetings with the clinical leads recommended this could be an optional field for inclusion to the message to the GP, where deemed necessary by the pharmacist.

Vaccination headings

GPs were asked which of the following headings should be included in a communication to a GP. The results are provided in the following table:

	Responses	
Manufacturer	71.15%	37
Batch number	69.23%	36
Expiry date	55.77%	29
Serialisation code	26.92%	14
Site	90.38%	47
Route	67.31%	35
	Answered	**52**

A thematic analysis of the qualitative responses showed GPs wanted the above information for the following reasons:

- For completeness

- In case of reactions

Recommendation: Due to high levels of consensus, include manufacturer, site and route in messages to GPs. Although there was not strong support for inclusion of serialisation code, subsequent meetings with the clinical leads decided this should be included in messages as an optional field for future-proofing. Also subsequent meetings with the clinical leads recommended not including the 'batch number' or 'expiry date', as there is no clear clinical requirement for doing so, and the responsibility in the event of a batch recall lies with the pharmacist.

Immunisation communicated as a procedure

GPs were asked whether in addition to the 'vaccine product', that the immunisation should be communicated as a procedure (e.g. immunisation against measles mumps and rubella [MMR]). The results are provided in the following table:

Answer Choices	Responses	
Yes	79.45%	58
No	12.33%	9
Not sure	8.22%	6
	Answered	**73**

Recommendation: Due to the high level of consensus, immunisations should be communicated to GPs as procedures.

Vaccine dose

GPs were asked if there were any circumstances where they would need to know the dose given. The results are provided in the following table:

Answer Choices	Responses	
No	38.36%	28
Not sure	35.62%	26
Yes	26.03%	19
	Answered	**73**

Recommendation: Include in the information model for rare circumstances (e.g. where half doses are given etc).

Vaccine dose sequence

GPs were asked if there were any circumstances where they would need to know the dose sequence. The results are provided in the following table:

Answer Choices	Responses	
No	46.58%	34
Not sure	32.88%	24
Yes	20.55%	15
	Answered	**73**

Recommendation: Due to lack of support, no need to include this heading in the information model.

Vaccine information inclusion in the GP system

GPs were asked how the record of the vaccination from the pharmacy should be included in the GP system. The results are provided in the following table:

Answer Choices	Responses	
Automatically ingest into the patient record	72.97%	54
Review and a decision made as to whether or not to add	20.27%	15
Not sure	6.76%	5
	Answered	**74**

Recommendation: System design should allow vaccinations given in community pharmacies to be automatically ingested into the patient record.

Information and advice given

Respondents were asked if the 'information and advice given' heading was acceptable. Of the 28 pharmacy professionals who responded to this question:

- 19 (67.86%) thought it was acceptable
- 5 (17.86%) thought the heading should not be included
- 4 (14.29%) thought the heading needed changing

Pharmacy professionals were asked if a drop down list of common options for 'information and advice given' would be useful. The results are provided in the following table:

Answer Choices	Responses	
No	13.79%	4
Not sure	34.48%	10
Yes	51.72%	15
	Answered	**29**

A thematic analysis of the qualitative responses showed the following common reasons for information and advice being provided:

- After care instructions
- Common side effects
- Leaflets provided

Recommendation: Include this heading in the information model. Implementation guidance to recommend 'drop-down' lists of common information are provided.

Clinician with overall responsibility

Pharmacy professionals were asked if there were any circumstances where in addition to the person giving the vaccination there is a separate 'responsible clinician' who should be included in the record. The results are provided in the following table:

Answer Choices	Responses	
No	51.72%	15
Not sure	31.03%	9
Yes	17.24%	5
	Answered	**29**

GPs were asked if there were circumstances where in addition to the person giving the vaccination there is a separate 'responsible clinician' who should be included in the record. The results are provided in the following table:

Answer Choices	Responses	
No	42.25%	30
Not sure	35.21%	25
Yes	22.54%	16
	Answered	**71**

Recommendation: Due to lack of support, no need to include this heading in the information model.

5. Appendix B – Emergency supply of medicine survey results and analysis

This appendix provides a summary of the quantitative and qualitative analysis of the online survey results.

Survey respondents (by role)

Answer Choices	Responses	
Patient	11.76%	30
Carer	0.39%	1
Pharmacy professional	60.00%	153
General practitioner or other health professional working in general practice	11.37%	29
Nurse working in pharmacy	0.39%	1
Other doctor	4.31%	11
Public health professional	1.96%	5
Clinical system supplier	2.35%	6
Informatician	3.14%	8
Other	4.31%	11
	Answered	**255**

Quantity supplied

Pharmacists were asked how 'quantity supplied' is currently recorded in community pharmacy information systems. The results are provided in the following table:

	Responses	
Recorded in a structured format	84.40%	119
Sometimes recorded as free text	3.55%	5
Always recorded as free text	2.13%	3
Not sure	9.93%	14
	Answered	**141**

Recommendation: Implementation guidance to recommend 'total amount of medication supplied' is recorded in a structured format, as per common current practice.

Clinical indication

Pharmacists were asked if the clinical indication for the medication should be recorded, in addition to the reason for supply. The results are provided in the following table:

	Responses	
Yes	50.00%	57
No	34.21%	39

Not sure	15.79%	18
	Answered	**114**

GPs were asked if they would like to know the community pharmacist recorded clinical indication for the medication, in addition to the reason for supply. The results are provided in the following table:

	Responses	
Yes	82.61%	19
No	8.70%	2
Not sure	8.70%	2
	Answered	**23**

Recommendation: 'Clinical indication' to be included as a required field as pharmacist may not always know the indication and will be guided by the patient/Summary Care Record (SCR). However 'reason for supply' should be mandatory.

Incorporation into GP electronic patient records

GPs were asked how they currently process emergency supply notification forms received from community pharmacies. A thematic analysis of the qualitative responses identified the following themes:

- Use of the Docman system
- Manually added to medications record
- Scanned into patient notes
- Currently do not receive these notifications

GPs were asked how they would like to incorporate the information into the electronic patient record. The results are provided in the following table:

	Responses	
Incorporate the supply in the patient's medication record against the repeat prescription	58.33%	14
Incorporate in the patient's medication record as a free text note	16.67%	4
Do not incorporate in the medication record, attach as a document only	12.50%	3
Other	12.50%	3
	Answered	**24**

Recommendation: Emergency supply information should be incorporated into the patient's record against the repeat prescription.

Plan and requested actions

Respondents were asked if they agreed with the 'plan' heading. The results are provided in the following table:

	Responses	
Yes	53.16%	84
No	24.05%	38
Not sure	22.78%	36
Other	**Answered**	**158**

A thematic analysis of the qualitative responses identified the following themes:

- May lead to additional burden
- Plan is not applicable for emergency supply of medicine
- If included must be made simple
- May prevent a recurrence

Recommendation: 'Plan and requested actions' should be included in the information model where required to include actions for healthcare professionals (e.g. GP to consider referring patient for a medicines use review) and the patient/carer (e.g. arrange a GP appointment for regular prescription).

Refused emergency supplies

Respondents were asked if community pharmacists should inform GPs where a requested emergency supply of medicine has been refused. The results are provided in the following table:

	Responses	
Yes	65.03%	106
No	23.31%	38
Not sure	11.66%	19
	Answered	**163**

A thematic analysis of the qualitative responses identified the following themes:

- GPs need to know why a medicine is not issued
- Important for GPs to know to identify issues/repeat behavior
- Helpful for identifying misuse/inappropriate requests
- Supports collaborative patient care

Recommendation: Reason for non-supply should be added to the information model.

Site

Respondents were asked if 'site' of administration was relevant for emergency supply of medicine. The results are provided in the following table:

	Responses	
Yes	37.67%	55

No	48.63%	71
Not sure	13.70%	20
	Answered	**146**

Recommendation: Subsequent meetings with the clinical leads recommended including this as an optional field. To be auto-populated where possible. This is to ensure that complete clinical information (e.g. left eye) is captured and included in a notification to the GP.

Route

Respondents were asked if 'route' was relevant for emergency supply of medicine. The results are provided in the following table:

	Responses	
Yes	42.36%	61
No	46.53%	67
Not sure	11.11%	16
	Answered	**144**

Recommendation: Due to lack of support, no need to include this heading in the information model.

Method

Respondents were asked if 'method' was relevant for emergency supply of medicine. The results are provided in the following table:

	Responses	
Yes	35.56%	49
No	52.05%	76
Not sure	14.38%	21
	Answered	**146**

Recommendation: Remove this heading from the information model.

Additional instructions

Respondents were asked if 'additional instructions' was relevant for emergency supply of medicine. The results are provided in the following table:

	Responses	
Yes	47.18%	67
No	36.62%	52
Not sure	16.20%	23
	Answered	**142**

Recommendation: Include as an optional field. To be auto-populated where possible.

Emergency supplies collected by someone other than the patient

Respondents were asked if community pharmacists should inform GPs where the emergency supply of medicine is collected by someone other than the patient. The results are provided in the following table:

	Responses	
Yes	38.04%	62
No	46.63%	76
Not sure	15.34%	25
	Answered	**163**

A thematic analysis of the qualitative responses identified the following themes:

- To detect abuse
- To detect misuse of medications
- For accurate audit trails

Recommendation: Subsequent meetings with the clinical leads suggested that pharmacists should use their clinical judgement to decide whether to record this in their systems and/or to share this information with GPs (e.g. where there is suspicion of abuse/misuse etc).

6. Appendix C – Implementation guidance

This appendix is intended to provide high level guidance to those implementing the standards. It contains information relevant to both industry and clinical practice. The intended audience is broad, encompassing all involved in the design, development and implementation of IT solutions which are deploying the standards, including those developing learning resources. The guidance was developed during the development of the standards, it is therefore not able to provide definitive guidance and it is anticipated that it will be refined in response to findings and feedback during actual implementation.

6.1. General guidance

a) It is not anticipated that all headings will need to be recorded in all circumstances, only where they are relevant to a specific patient. Headings should not be included in a message where there is no data recorded/available.

b) It is not anticipated that local systems will need to change the display of data to comply with the pharmacy information models, local terms and ordering can be maintained as long as they are mapped to the pharmacy information models and associated technical specifications for communication outside the organisation. The order in which headings appear in a message can be agreed locally.

c) Data quality and accuracy of coded data entry needs to be monitored and implementers will need to ensure sufficient training and monitoring of record keeping.

d) The section headings are intended to support navigation around the record and are clinical groupings of related subheadings, rather than having any semantic meaning.

e) The information can be displayed in any format as designed by the end user and supplier. The standards provide a common structure to the communication, not a style guide. Different IT systems can display the same information in different ways, but the meaning will remain the same.

f) Where there is a heading and a subheading with the same name, there is no need to display the heading as well as the subheading in a message.

g) Each pharmacy record entry must have the date and time recorded and the identity of the person making the record. This information should be recorded in an electronic record automatically, by date and time stamping each record and associating it with the personal identification of the individual recording it (e.g. General Pharmaceutical Council (GPhC) number, Spine Directory Service (SDS) identifier etc). The audit trail needs to be available on the pharmacy system but does not need to be communicated in the message.

h) Where contributions are provided from multi-disciplinary team members, not just an individual clinician, the local system should retain an audit trail of the provenance of all contributions.

i) Information should be auto-populated in the pharmacy system, where appropriate, for example from the Personal Demographics Service (PDS). This will reduce the amount of data that has to be re-keyed by pharmacy teams at the point of care. The expectation is that, in time, auto-population will include supply of appropriate SNOMED CT codes, for example by using pick lists of terms from SNOMED CT, and by deriving data from barcodes (e.g. the Falsified Medicines Directive [FMD]).

j) User interfaces should not restrict the order in which clinicians enter data, so that clinicians can navigate forwards and backwards to complete or partially-complete sections as information becomes available. This does not negate the rule which stipulates that a communication cannot be sent unless all MANDATORY sections are completed (see below for definitions of mandatory, required and optional).

k) Pharmacists should always use professional judgment to determine what information should be communicated. Just because the system records information, does not always mean that it would be relevant to send to others. Systems should support this by enabling editing of communications by clinicians prior to them being sent.

l) Communications should be brief, where possible, containing only pertinent information, rather than duplicating information which the recipients (e.g. GPs) already have access to in their own records. The system should not require the pharmacist to key in the information, if the information can be pulled from other patient medication record (PMR) system data fields.

m) The extent to which information can be taken into the recipient system in structured/coded format will depend on the capabilities of the recipient system. Local decisions need to be made about what information is ingested into recipient systems in a structured coded format and what information is attached as a document. Systems should be moving toward structured and coded recording using SNOMED CT and Dictionary of Medicines and Devices (dm+d).

n) Recipients should be able to read all of the content (i.e. any coded data should be carried with the associated text).

o) Trading agreements will need to be drawn up at a local/regional level (e.g. clinical commissioning groups [CCG]), including:

    - Details of the information to be communicated, including which optional sections will be utilised.
    - The sequence of the sections.
    - Which fields will be coded and which textual.
    - Mapping from local headings/fields to those in the standard. The mapping should be owned by a clinician in each organisation.
    - Requirements for receipt of the communication, e.g. use of a generic mailbox.
    - New work processes for producing and receiving the communication.

6.1.1. Mandatory and optional

a) Within the standards, some of the headings which may be included in a message to a GP will be mandatory, but others will be optional. The information models define which headings may be included in a message to a GP, which of these are mandatory and which are optional.

b) MANDATORY sections must always be included. Other sections are optional. Where there is no information recorded in an optional section, that section should be excluded, to avoid the recipient receiving a communication with blank sections.

c) A distinction has been made between sections which are REQUIRED or OPTIONAL. The definition of each is given below:

   - REQUIRED: if there is information recorded it should be sent to the recipient.
   - OPTIONAL: a local decision as to whether information is sent to the recipient.

d) If a section is marked as MANDATORY or REQUIRED it should not be 'downgraded' to OPTIONAL by local agreement. However, it can by local agreement be upgraded from OPTIONAL to either REQUIRED or MANDATORY.

e) For each applicable use-case, all sections in the standards must be supported by IT systems, i.e., it should be possible to record and communicate information in all sections. However, there should be flexibility as to which of the optional sections are included in local implementations. This means that all the sections should be available for local organisations to use, but there should be flexibility to allow local choice about which of the optional headings to use.

6.1.2. Coding

The Personalised Health and Care 2020 framework for action recommends the use of SNOMED CT and the dictionary of medicines and devices (dm+d). Please note:

- The receiving GP systems are due to migrate to SNOMED CT, in a phased approach, from April 2018.
- The ambition is for SNOMED CT and dm+d to be the only clinical coding schemes in use in the NHS by 2020.
- Not all information sent in structured/coded format will be retained in this format at the receiving end. This will be dependent on the capability of the receiving end system, and will vary across organisations.
- There may be circumstances where the end user needs to be able to see the actual code rather than the text. This could be done in a variety of ways, for example, 'mouse over'.

6.1.3. Falsified Medicines Directive (FMD)

The Falsified Medicines Directive (FMD) is a patient safety feature, designed to thwart the introduction of counterfeit medicines into the legitimate supply chain, through the use of tamper-evident seals and a unique identifier on every pack. The unique identifier is shared by the license holder with a European repository and then onwards to a national repository, allowing pharmacies to verify that the medicine they received is bona-fide, through a verification check. When the medicine is supplied to a patient or otherwise 'taken out of use', the unique identifier is 'decommissioned' to prevent nefarious re-use of the packaging. In the community pharmacy, the verification of the pack will take place when the pharmacist scans the barcode of the pack at the time of supplying it to the public. The presence of the barcode allows the medicine to be identified through the Global Trade Identification Number (GTIN), and includes details of batch and expiry date, so offers the opportunity for accurate capture of this information through barcode scan, populating the various, necessary data to support documentation, e.g. the administration of an influenza vaccination.

6.2. Guidance applicable to both vaccination administration and emergency supply of medicine

The following guidance is applicable to both the vaccination administration and emergency supply of medicine information models.

6.2.1. Patient demographics

a) In England, Spine compliant systems are needed to obtain traced NHS numbers. Pharmacy systems are spine-enabled for the electronic prescription service (EPS) so should always know the patients NHS number and hence GP practice. Where an organisation does not have a system linked to the Personal Demographics Service, other demographics fields will need to be used, with local person identity matching software.

b) Pharmacists record patient demographics for their own records but they only need to communicate to the GP practice the data items needed for record matching (i.e. NHS number and one other searchable item such as date of birth).

c) NHS number (or equivalent, e.g. CHI number in Scotland) is required, but with the option to record not known or not available. Existing national guidance should be followed, including how to handle patients without an NHS number, egg overseas visitors, services personnel, prisoners.

d) If the patient is at a temporary address this should be communicated to the GP as free text and not automatically update the GP system.

e) System design should allow the display of separate sections for health/care contacts and personal contacts (e.g. family, friends, relatives etc) under the 'relevant contacts' heading. This heading is where the patient's emergency contacts would be recorded.

6.2.2. Referrer details

a) Referrer details (e.g. NHS111, healthcare professional referral) should be copied forward from the referral or transfer of care where possible.

b) Coded text 'self-referral' should be used where the patient is not referred or transferred from a health/care organisation. Where 'self-referral' is recorded the referrer data items should be left blank.

6.2.3. GP practice

a) 'GP practice identifier' does not need to be a displayed field. It is intended to be used to provide the GP practice details via lookup from national registers.

b) Many people will not offer a named GP. Only the 'GP practice details' heading would need to be completed in these situations. These details would be obtained by the PDS or via a look up file of Organisation Data Service (ODS) codes provided by NHS Digital.

6.2.4. Consent

A record of consent for treatment, consent relating to children and consent for information sharing should be captured in the PMR system. However only the record of consent for treatment and consent relating to children should be shared with the GP (as consent for information sharing will be implicit). *Please note these headings are in included in a separate 'consent' section for this standard to reflect the way pharmacists work, however they are included in the 'legal information' section of other PRSB standards.*

6.2.5. History

The history section is intended to capture SNOMED CT and free text descriptions of patient history recorded by the pharmacist. This should only include history which is pertinent to vaccination administration and emergency supply of medicine, for example contraindications, pregnancy, immunosuppression etc.

6.2.6. Allergies and adverse reactions

Patients may return/contact the pharmacy if they experience a reaction at a later date in relation to a vaccination or emergency supply of medicine. Consideration should be given about notifying GPs where an allergic/adverse reaction occurs after the patient has left the pharmacy.

6.2.7. Information and advice given

a) In some instances pharmacists may want to communicate to the GP specific information and advice which was given to the patient. It is important that this is concise and is only information which it is pertinent for the GP to be aware of.

b) Where patients are provided with literature (e.g. pamphlets) there is no need to provide details of the information contained in the literature e.g. simply state that the patient was provided with a pamphlet.

c) It is recommended that system design provides drop-down lists of common information and advice given to patients e.g. after care instructions, common side effects, leaflets provided etc.

6.3. Guidance applicable to the vaccination administration use case

The following guidance is only applicable to the vaccination administration information model. The information model has focused on seasonal influenza vaccinations, but has been developed to be sufficiently generic to accommodate other types of immunisations which may be given in pharmacies, in case there is a need to communicate these in the future.

6.3.1. Attendance details

a) Physical location of administration/supply should only be populated if the location differs from the organisation address e.g. vaccinations given in care homes etc.

6.3.2. Eligibility criteria

b) Eligibility criteria should be recorded in a structured way in the pharmacy system as it is required for contractual purposes for certain types of vaccinations (e.g. seasonal influenza vaccinations). However, this information will be sent to the GP as free text.

c) If the vaccination given does not have any specific eligibility criteria, this section should be left blank.

6.3.3 Allergies and adverse reactions

a) This section is intended to cover a full record of immediate allergic and adverse reactions following a vaccination.

b) Coded information on causative agents is important to GPs to enable safe operation of prescribing decision support. The model proposed here is being adopted across the GP domain to enable interoperable drug allergy information to support patient safety at transfer of care.

c) Guidance on good practice recording of allergies and adverse reactions is provided by NICE (https://www.nice.org.uk/guidance/CG183/chapter/1-Recommendations). This relates to end systems rather than the transfer of care communication, but is included here as its use should improve quality of the information communicated.

6.3.4. Vaccinations

a) In future, vaccination information will be captured by scanning the barcode of the vaccine. This would capture the GS1 code (product identifier), serialisation number, batch number and expiry date.

b) The batch number and expiry date of the vaccination will be recorded in the pharmacy PMR system, but not shared with the patients GP.

c) GPs record vaccinations as procedures, thus it will be important for pharmacist to also record vaccinations as procedures in SNOMED CT, as well as recording the actual product using dm+d. This is important so that a flu vaccination can be recorded as both a clinical intervention and the supply of a medicinal product.

d) For inclusion in GP records, the message needs to indicate that it contains vaccination procedures, that if configured by the receiving system could be either:
    - automatically entered into the receiving system without user intervention
    - added to workflow for clinician review, prior to entry into the receiving system
    - or not entered into the record.

6.4. Guidance applicable to the emergency supply of medicine use case

The following guidance is only applicable to the emergency supply of medicine information model.

6.4.1. Medications and medical devices

a) Supply type is a heading which identifies the type of medication being supplied to a patient. The following value set has been proposed as part of the NHS Digital curation process: https://fhir.hl7.org.uk/STU3/ValueSet/CareConnect-MedicationSupplyType-1

b) It is likely that the 'dose directions description' will be recorded in a structured way in the future, but until then, it will be sent as free text. Dose syntax should be unambiguous and avoid using confusing abbreviations.

c) In the future batch number will be captured from the FMD scan; however this does not need to be transmitted to the GP.

d) Total amount of medication supplied should be recorded in a structured format, as per common current practice.

e) Site and additional instructions should be auto-populated where possible to reduce burden on the pharmacist.

f) For inclusion in GP records, the message needs to indicate that it contains 'medications prescribed elsewhere', that if configured by the receiving system could be either:

   - automatically entered into the receiving system without user intervention.
   - added to workflow for clinician review, prior to entry into the receiving system
   - or not entered into the record.

6.4.2. Plan and requested actions

a) The plan should make clear who is expected to take responsibility for actions following the encounter, egg the person receiving care or their carer; the GP or another heath care professional.

b) The pharmacy provided plan could be presented in various ways in the system to prompt complete information to be recorded egg table, best practice prompts, etc.