Professional Record Standards Body

Better records for better care

PHARMACY INFORMATION FLOWS: IMPLEMENTATION GUIDANCE

FEBRUARY 2019

1.1 Introduction and background

Digital Medicines is one of the ten delivery domains being conducted by NHS Digital to transform health and care through technology. The Integrating Pharmacy across Care Settings (IPaCS) Programme is part of the Digital Medicines work and is focused on the integration of pharmacy services across the health and care system, supported by digital solutions that ensure pharmacists can safely and securely access, record and share patient data. As part of this programme, NHS Digital has commissioned the Professional Record Standards Body (PRSB) to define information models for specific pharmacy service information flows as part of the Pharmacy Information Flows Project.

The PRSB provides professional, patient-endorsed and evidence-based clinical record standards. These provide the basis for technical specifications produced to enable industry to implement technical solutions. The Pharmacy Information Flows project is being conducted in partnership with the Royal College of Physicians (RCP) Health Informatics Unit (HIU) and clinical leadership is being provided by the Royal Pharmaceutical Society (RPS) and Royal College of General Practitioners (RCGP). The project has developed standards for:

1. Vaccine administration[1]
2. Emergency supply of medicine
3. New medicine service
4. Medication reviews (this includes the Medicine Use Review [MUR] as a contracted community pharmacy service in England, but also other types of medication review conducted by pharmacists in other settings, e.g. within care homes)
5. Appliance use reviews
6. Digital Minor Illness Referral Scheme
7. Discharge from hospital to pharmacy services

The benefits of the project are expected to 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 record.
- A more comprehensive patient health record with the inclusion of clinically relevant outcomes from pharmacy services, which has the potential to improve medication safety and support medicines optimisation.

[1] Please note that standards 1 – 6 include both the data to be recorded in the pharmacy system and that to be included in a communication to the patient's GP

- Reduced administrative burden due to elimination of paper templates and transfer of information through non-direct routes into patients' primary care health record.
- Improved communication methods supports community pharmacy to take on a greater range of clinical services to reduce burden on other parts of the health and care system, and also ensures that the clinical contribution of community pharmacists is visible to the wider NHS.

1.2. Purpose

This document is intended to provide high level guidance to those implementing the Pharmacy Information Flows 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.

2.1. General guidance

a) It is not anticipated that all headings will need to be recorded or communicated in all circumstances, only where they are relevant to a specific patient. Headings should not be included in an electronic communication (referred to in this document as a 'message') where there is no data recorded/available.

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

c) 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.

d) 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.

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

f) Each pharmacy record entry must have the date and time recorded and the identity and role 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.

g) 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, and optimise the usability of the standard. 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 some data from barcodes (after the implementation of the Falsified Medicines Directive [FMD]).

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) 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).

j) 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.

k) 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.

l) 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 have or be implementing structured and coded recording using SNOMED CT and the NHS Dictionary of Medicines and Devices (dm+d).

m) For inclusion in GP records, the message needs to indicate that it contains information about a new medicine service, medication review or appliance use review 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 to enable a clinical decision as to whether or not to enter the information into the record

n) Recipients should be able to read all of the content (i.e. any coded data should be carried with a human readable term and any associated free text).

o) In the recipient system, the information in the message 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 should remain the same.

p) As part of the implementation, 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, depending on the capabilities of the sending and receiving systems.
- Mapping from local headings/fields to those in the standard should be done by a system supplier clinical lead once for all instances of their system. Where the system allows local configuration 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. This will require professional input from local professional leaders.

2.2. 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 not be displayed to the recipient, to avoid the recipient having to view 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) The project consulted with a wide range of stakeholders to gain consensus on whether the information to be included in a message to a GP should be mandatory, required or optional. If a section is marked as MANDATORY or REQUIRED it should not be 'downgraded' to OPTIONAL by local agreement. However, in some circumstances by local agreement headings can be 'upgraded' from OPTIONAL to either REQUIRED or MANDATORY. However any decisions should be made as part of a trading agreement between the parties involved (local GPs and community pharmacies).

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.

2.3. 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 displayed in this format at the receiving end. This will be dependent on the capability of the receiving end system, and will vary across organisations. However the structured coded data should be retained in the recipient system so that it can be migrated to a system that does understand the coding.
- 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'.

2.4. 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 bone-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 (although pharmacy system suppliers are looking at various ways in which this might be implemented). 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 some fields that will support this standard. More information is available at https://psnc.org.uk/contract-it/pharmacy-regulation/falsified-medicines-directive/

3. Hospital discharge to pharmacy services guidance

The view from the PRSB consultation was that the full discharge summary which is sent to the patient's GP (https://theprsb.org/standards/edischargesummary/) should also be sent to the community pharmacy, rather than a subset. For further information see the Pharmacy Information Flows Stage 2 final report. The following additional implementation guidance has been identified for hospital discharge to community pharmacy services:

a) Selection of the community pharmacy should be based upon patient's choice, rather than an automated selection, in order to allow for a range of patient requirements. Where patients have a registered pharmacy, this should be displayed, but it should be possible to select another pharmacy if the patient prefers to do so.

b) Pharmacy system design can be optimised to display the information from the hospital discharge summary which is most relevant to the pharmacist, which would be beneficial both for good pharmacy workflow and clinical safety. It may be helpful if systems can re-organise the order of the information for display to pharmacy staff, based on pharmacy feedback, so that more important information is more prominent.

c) Where assessment scales are included in a discharge summary, the term has been used as it is generally understood; however, in order to allow values to be recorded under this heading (e.g. assessment scale score) the value set permissible under this heading should be an observable entity e.g. 447316007 | Mini-mental state examination score (observable entity), rather than 273617000 | Mini-mental state examination (assessment scale).

4. Use-case specific implementation guidance

The following table provides implementation guidance which has applicability to one or more Pharmacy Information Flows use-cases (e.g. vaccine administration, medication reviews, new medicine service etc.). The first column provides the specific guidance and the additional columns indicate with 'Y' which use-cases the guidance applies to:

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
PATIENT DEMOGRAPHICS							
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 (PDS), other demographics fields will need to be used, with local person identity matching software.	Y	Y	Y	Y	Y	Y	Y
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).	Y	Y	Y	Y	Y	Y	
NHS Number should only be used if NHS Number Status Indicator Code has value '01' (i.e. it has been verified against the Personal Demographics Service. For Status Indicator Code values other than '01' that the NHS Number should be reported as 'null'.	Y	Y	Y	Y	Y	Y	Y

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
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, e.g. overseas visitors, services personnel, prisoners. The 'other identifier' heading may also be used to record the pharmacy case number.	Y	Y	Y	Y	Y	Y	Y
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.	Y	Y	Y	Y	Y	Y	Y
REFERRER DETAILS							
Referrer details (e.g. NHS111, healthcare professional referral) should be copied forward from the referral or transfer of care where possible.	Y	Y	Y	Y	Y	Y	Y

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
This section is about who referred the patient to the pharmacy service whereas the 'referral details' section is to provide information to the GP about any referrals made.							
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.	Y	Y	Y	Y	Y	Y	Y
For referrals from NHS 111 to a DMIRS attendance, the 'reason for referral' may include a diagnosis code and a symptom code.						Y	
GP PRACTICE							
'GP practice identifier' does not need to be a displayed field, although the GP Practice Name should be displayed unambiguously to the pharmacist for lookup and selection. It is intended to be used to provide the GP practice details via lookup from national registers.	Y	Y	Y	Y	Y	Y	Y

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
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.	Y	Y	Y	Y	Y	Y	Y
CONSENT							
A record of consent for treatment, consent relating to children and consent for information sharing should be captured in the clinical system. 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.	Y	Y	Y	Y	Y	Y	
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, for example contraindications, pregnancy, immunosuppression etc.	Y	Y	Y	Y	Y	Y	

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
ALLERGIES AND ADVERSE REACTIONS							
Patients may return to/contact the pharmacy if they experience a reaction at a later date in relation to a vaccination or supply of medicine. Further consideration should be given about how to notify GPs where an allergic/adverse reaction occurs after the patient has left the pharmacy.	Y	Y				Y	
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.	Y	Y	Y	Y	Y	Y	Y
Existing allergies should not be duplicated. Allergies should only be recorded and communicated to the patient's GP where the pharmacist thinks that the allergy has been newly identified. In this situation a pharmacist must be able to record a full allergy record.	Y	Y	Y	Y	Y	Y	

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
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.	Y	Y	Y	Y	Y	Y	Y
INFORMATION AND ADVICE GIVEN							
In some instances, specific information about the information and advice which was given to the patient (e.g. proper inhaler technique) (may want to be communicated to the recipient. It is important that this is concise and is only information which it is pertinent for the recipient to be aware of.	Y	Y	Y	Y	Y	Y	Y
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.	Y	Y	Y	Y	Y	Y	Y

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
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.	Y	Y	Y	Y	Y	Y	Y
ATTENDANCE DETAILS							
Location of event should only be populated if the location differs from the organisation address e.g. vaccinations given in care homes etc.	Y		Y	Y	Y	Y	
Currently DMIRS attendances are face to face, however 'consultation method' has been included to future-proof the standard if this service is able to be provided remotely.						Y	
Pharmacists need to make a decision, on a case-by case basis, on the need to inform the patient's GP if a patient is not provided with the service and the reason for the non-provision of the service.	Y	Y	Y	Y	Y	Y	

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
ELIGIBILITY CRITERIA							
Eligibility criteria should be recorded in a structured way in the pharmacy system as it is required for contractual purposes. However, this information will be sent to the GP as free text. If the service does not have any specific eligibility criteria, this section should be left blank.	Y		Y				
CLINICAL NARRATIVE							
In DMIRS the clinical narrative section may include red flags identified during the attendance.						Y	
VACCINATIONS							
In future, vaccination information will be captured by scanning the GS1 barcode of the vaccine. Additional information on GS1 is available at https://www.gs1uk.org/support/our-standards/discover-gs1-standards	Y						
The batch number and expiry date of the vaccination will be recorded in the pharmacy PMR system, but not shared with the patients GP.	Y						

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
GPs record vaccinations as procedures, thus it will be important for pharmacists to also record vaccinations as procedures in SNOMED CT, as well as recording the actual product using dm+d. Dose sequence will also be captured by the procedure code. This is important so that a flu vaccination can be recorded as both a clinical intervention and the supply of a medicinal product.	Y						

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
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 to enable a clinical decision as to whether or not to enter the information into the record	Y						
MEDICATIONS AND MEDICAL DEVICES							
Supply type is a heading which identifies the type of medication supply. 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		Y				Y	

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
In future, medication information will be captured by scanning the GS1 barcode of the medicine. Additional information on GS1 is available at https://www.gs1uk.org/support/our-standards/discover-gs1-standards		Y				Y	
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.		Y	Y		Y	Y	Y
In the future batch number will be captured from the FMD scan for prescription medicines; however this does not need to be transmitted to the GP.		Y				Y	
Total amount of medication supplied should be recorded in a structured format, as per common current practice.		Y				Y	
Indication is defined as 'reason for supply', and should allow for both licensed uses and off-label uses of a medicine.		Y	Y		Y	Y	Y
Site and additional instructions should be auto-populated where possible to reduce burden on the pharmacist.		Y				Y	

	Vaccine Administration	Emergency Supply of Medicine	Medication Reviews	Appliance Use Reviews	New Medicine Service	Digital Minor Illness Referral Scheme	Hospital Discharge to Pharmacy
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: a. automatically entered into the receiving system without user intervention. b. added to workflow for clinician review, prior to entry into the receiving system c. or not entered into the record.		Y				Y	
PLAN AND REQUESTED ACTIONS							
The plan should make clear who is expected to take responsibility for actions following the encounter, e.g. the person receiving care or their carer; the GP or another heath care professional.		Y	Y	Y	Y	Y	Y
This section may include the date of the next planned review.			Y	Y	Y		
The pharmacy provided plan could be presented in various ways in the system to prompt complete information to be recorded e.g. table, best practice prompts, etc.		Y	Y	Y	Y	Y	

DISTRIBUTION LIST							
The 'Distribution list' headings are OPTIONAL, which means that it is a local decision as to whether some or all of those to whom the information is distributed is communicated.	Y	Y	Y	Y	Y	Y	Y