

Use and development of pharmacy systems: Commonly suggested features

This [Community Pharmacy IT Group \(CP ITG\)](#) briefing for pharmacy system suppliers and pharmacy contractors focuses on development of Patient Medication Record (PMR) systems and the features which are frequently requested by pharmacy contractors and their teams.

Background

Pharmacy contractor – getting the best from your system

Pharmacy contractors and their teams frequently report that they do not use their PMR system to the fullest extent. To support the efficient operation of pharmacies, it is therefore important that they learn about and make best use of existing PMR features. Practical steps that pharmacy contractors could take include:

- learning about and using settings and customisation options within their PMR that could assist their pharmacy workflows;
- asking questions about PMR system functionality and providing feedback to your system supplier, as this helps to shape their plans for development of their PMR system;
- making best use of PMR training opportunities so you become familiar with the system and can optimise use and benefits obtained from it; and
- ensuring the hardware and software within the pharmacy is appropriate, as recommended by your PMR supplier and NHS Digital (e.g. the [Warranted Environment Specification \(WES\)](#)) and that software updates provided by suppliers are applied in a timely manner.

Development of PMR systems

PMR suppliers comply with NHS Digital minimum specifications¹. The following list includes features of PMR systems over and above the minimum requirements, which pharmacy staff frequently identify as being desirable, in order that systems efficiently support the provision of community pharmacy services now and in the future. Many PMR systems already have much of this functionality and it is recognised that:

- PMR suppliers have finite resources and must carefully consider which changes are feasible and a priority;
- PMR suppliers will follow their own long-term development roadmaps and making quick/complex/unexpected changes won't always be viable;
- Variation amongst the systems can help to ensure there is innovation and healthy competition in the pharmacy IT market; and
- Some of the requested features listed below cannot yet be developed by PMR suppliers until there are suitable IT standards, or technical changes to underlying NHS IT. The [Community Pharmacy IT Group \(CP ITG\)](#) will continue to push for those NHS IT changes necessary to support progress.

The list below will be regularly updated and pharmacy team members, and PMR suppliers are encouraged to provide feedback on the content.

¹ Electronic Prescription Service Release 2 (EPS R2) systems suppliers have already successfully met those minimum standards outlined within NHS Digital EPS specifications. Those specs explain what systems must do, as well as make some recommendations about what can be done.

List of frequently requested features (updated January 2019)

The most commonly suggested features – by category - are:

Usability

- Can be user-tested** on an ongoing basis to support development of the system, e.g. they can be user-tested for clickability to minimise clicks and to ensure the user interface is intuitive for users within pharmacies and head offices
- Can be speedy** to use
- Can be touch-screen compatible**
- Can be used on secure mobile devices** within the pharmacy
- Can provide a customisable dashboard/user interface**

Clinical

- Can record:**
 - patient conditions**, e.g. asthma, hypertension, diabetes
 - in an auditable way** (i.e. author and date)
 - clinical observation and other data** including lung capacity (FEV1/FVC ratio), body mass index (BMI), smoking status, blood pressure, international normalised ratio (INR) and other blood measures
 - allergies** to medicines or other substances
 - interventions**
 - clinical assessments**
 - discharge notes (if received) electronically**
 - signposting**
- Can allow easy printing/digital-sharing of materials targeted for patients based on the clinical information held**, e.g. option for stop smoking or dietary advice sheets to be auto-shared for relevant patients
- Can enable the pharmacist to clinically authorise repeats** because a further clinical check is not required until the medicines for that patient are changed – to free pharmacist time for other care
- Can send structured clinical messages to other healthcare providers**, e.g. GP practices, care homes and secondary care
- Can issue medicine interaction warnings and other warnings**, for pharmacy staff via pop-up messages, printing of warning labels etc. For example, Sodium Valproate being prescribed to women of childbearing age
- Can share or print patient information leaflets**

Interoperability

- Can allow full transfer of patient records to a new PMR system, if the system is to be changed to support safe care**
 - The patient transfer record would ideally include:** allergy status, intolerance status, hospital discharge summaries, acute vs repeat medicines lists, Medicines Use Reviews (MURs), and New Medicine Service (NMS) records
- Can share anonymised service data with PSNC and other appropriate organisations for the purpose of evaluating the impact and outcomes of pharmacy services** (e.g. MUR, NMS, and flu vaccination)
- Can use coded (SNOMED clinical terms (CT)) dose instructions**

- Can print patient dose instructions in a user-friendly manner**, e.g. ONE tablet to be taken FOUR TIMES a day
- Can comply with NHS Digital pharmacy 2018 interoperability specifications² i.e.:**
 - Can access Summary Care Record (SCR)³ information speedily** (via 'OneClick' or message integration) reducing the need for pharmacy staff to require Smartcard re-authorisation or 'clunkier' SCR access
 - Can provide a link to the Directory of Services (DoS) to enable the pharmacy to obtain the information required to send Interoperability Toolkit (ITK2) messages**
 - Can enable community pharmacies to receive Interoperability Toolkit (ITK2)⁴ messages from other care settings**, e.g. to support the secure transfer of information from community pharmacy to other settings
 - Can enable community pharmacies to send Interoperability Toolkit (ITK2) messages to other care settings**, e.g. to support the secure transfer of information from urgent care to community pharmacy. Messages from pharmacy to primary care may include interventions and information on advice provided to patients
- Can be compatible with other software and systems**, e.g.:
 - Via API-led connectivity⁵** to allow easier interoperability
 - Can be directly or indirectly compatible with GP systems** so structured clinical information can be shared with GPs
 - Can support the provision of services** and recording of clinical data, e.g. support for MUR, NMS, flu vaccination
 - Can integrate or interoperate with:**
 - NHSmial** and can notify pharmacy staff of new NHSmial, e.g. audible or screen alert
 - electronic point of sale (EPOS) systems**
 - the [NHS App](#) and other patient apps** including data input by the patient into their app, e.g. 'dose taken at [time]',
 - stock control system**
 - NHS e-referral service (eRS)**
 - web-based pharmacy service clinical systems**
 - electronic controlled drug registers**
 - local health and care records**
 - patient messaging systems e.g.** notifications that medicine is ready for collection – via email, SMS text or app notifications
 - all Smartcard software**, e.g. *Gemalto* middleware, *Oberthur* middleware and the Smartcard Care Identity Service (CIS)
 - dispensing robots and smart devices** e.g. smart fridge and its temperature

Resilience

- Should use arrangements to ensure down-time is minimal**
- Can have availability % service levels independently assessed and published** e.g. by NHS Digital
- Can publish service level agreement (SLA) options involved** if there is a connection or broadband problem and explain the SLA options (e.g. across weekends and bank holidays) and offerings of any third-party provider
- Can clearly explain the compensation process online or within contracts** in case an outage significantly impacts a pharmacy's operation e.g. discounts against future monthly payments

² NHS Digital Integrating Pharmacy Across Care Settings (IPACS) shared specifications with PMR suppliers during July 2018.

³ SCR is an electronic record of important patient information, created from GP medical records. It can also be seen and used by authorised staff in other areas of the health and care system involved in a patient's direct care, with their consent.

⁴ The ITK aims to standardise interoperability within both health and care. It is a set of common specifications, frameworks and implementation guides to support interoperability within local organisations and across local health and social care communities.

⁵ API-led connectivity is a methodical way to connect data to applications through reusable and purposeful APIs.

Connectivity

- Can have contract provisions that ensure connection speeds will improve over time**, e.g. at minimum, in-line with the national average improvements over time
- Can have a business continuity offering for connectivity**, e.g. a 3G/4G/5G dongle in case the wired connection fails

Supporting accurate reimbursement for dispensed prescriptions

- Can enable 'claim amend'** of an EPS prescription after it has been sent for pricing
- Can confirm those EPS prescriptions which have been sent to the Spine** to reassure contractors that the NHS BSA receives each EPS prescription
 - Can notify pharmacy staff about those prescriptions which were not successfully sent to the Spine**, to reduce need for manual reconciliation
- Can alert pharmacy staff of EPS prescriptions approaching their 180-day claiming deadline**, e.g. warnings about numbers of scripts approaching 180-day limit
- Can alert pharmacy staff of eRD prescriptions approaching their eRD 365-day deadline**, e.g. warnings about numbers of eRD issues approaching the deadline (365 after the original signed date)
- Can enable efficient checking of endorsements** so the pharmacy team member that reviews this can easily satisfy themselves that other pharmacy staff have made electronic endorsements correctly
- Can alert pharmacy staff before allowing submission of non-Part VIII prescription items that are missing required information/price endorsement** to reduce the risk that the NHS BSA need to contact the pharmacy team for clarification
- Can alert pharmacy staff if multiple flavours are dispensed but the GP assorted flavours (AF) endorsement is missing**
- Can reconcile against pricing data to the pack level**, e.g. by integrating with pricing software.

Feedback/reporting

- Can use a feedback system so pharmacy staff can report issues or ideas** via phone or online and in each case a helpdesk reference number is provided
- Can be supported by a helpdesk** open during usual office hours but ideally longer to more closely match typical pharmacy hours
- Can be supported by transparent response times** for dealing with problems when they occur, e.g. standard ticket response times
- Can be supported by a transparent helpdesk escalation process** if staff cannot resolve their question with the first-line support

Sorting prescriptions easily

- Can filter/sort prescription information on-screen effectively**, e.g. prescriptions by:
 - newest and by oldest
 - patient name (and grouping to reduce some of the risk of 'split scripts')
 - Release 1 and Release 2
 - dispensed from those that are awaiting collection
 - endorsed and ready to claim
 - those with actions outstanding
 - monitored dosage systems (MDS)
 - controlled drugs

- Can warn if there are multiple prescriptions** for the same patient at the time of processing one of that patient's prescriptions

Ready for change

- Can be agile enough** so that enhancements can be made to support changes to the community pharmacy contract and other service developments

Monthly submission reconciliation

- Can generate a report to support the monthly submission form (FP34C) completion**, including the report considering the EPS five-day window system – at pharmacy or pharmacy organisation level
- Can generate reports for high value or unusual items**

Dealing with problems

- Can automatically and securely back-up data on a regular basis**
- Can ensure regular back-ups are taken** (e.g. daily) and alerting pharmacy staff if back-ups are not made within a defined time
- Can alert pharmacy staff when the system is down**, e.g. when connectivity to the internet is lost or the local system is unable to connect to the central NHS Spine or message broker
- Can support transition after system down-time** by supporting use of back-ups and efficient reconciliation of records on the PMR and downloaded electronic prescriptions once connectivity is restored

Training opportunities

- Can provide training at start of system use and when local GP practices start to use EPS or eRD**
- Can provide ongoing training opportunities** delivered through factsheets, videos and on-screen help
 - Can be explained with mini 'how-to' videos that are freely accessible online**, so any pharmacy team members or locum staff can watch on any computer without requiring any login

Efficient working

- Can recall an EPS dispense message** in case adjustment is required
- Can alternate between paper and EPS** modules speedily
- Can display patient medication history on-screen clearly** to support pharmacy staff in efficiently reviewing the relevant history (see also interoperability section: SCR one-click)
- Can communicate information from the right-hand side** of the prescription:
 - Can 'remember' if the pharmacist changed the instructions for the last prescription for the patient to support automatically converting the GP's abbreviated message to a suggested alternative
 - Can organise repeat medicines into alphabetical order so a comparison can be performed against the prescribing system's alphabetical list
- Can enable patients to electronically sign their name**, e.g. via a touchscreen mobile device
- Can enable display of a 'delivery patient' flag** to advise pharmacy staff where home delivery is required
- Can integrate EPS with other business processes**, e.g. can integrate with monitored dosage systems (MDS)

- Can enable generation of a nominated patients list** for management purposes that have recently received prescriptions via nomination
- Can allow outstanding actions to be recorded/filtered/displayed**, e.g. follow-up phone call is required for patient
- Can automatically print out an MUR label or otherwise highlight targeted medicines** for use for highlighting those patients who have not had an MUR within a year
- Can provide spell-check facilities for dose instructions** but should not auto-correct without user confirmation or action (to avoid the risk of spurious auto-correction)
- Can enable scanning of barcodes on Smartphones** i.e. some scanners do not support this

Fair and transparent contracts

- Can explain its upgrade costs clearly** (one-off and ongoing)
- Can be contracted for a fair length**, i.e. an option for one year or less that is not cost-prohibitive compared with a longer contract (e.g. two or three years)
- Can have its contract transparently communicate hardware commitments**
- Should not have an unreasonable penalty clause for early termination** of the contract, e.g. one-month's software costs for a software only contract
- Can have its contract aligned with related contracts**, i.e. if multiple existing contracts for hardware, support, software and Health and Social Care Network (HSCN)/N3 connection the timing will be aligned
- Can have a contract with flexibility for upgrades**, e.g. the speed of the connection or service level agreement (SLA) 'time-to-fix' can be improved without an excessive charge or wait
- Can have contract offerings published** so they can easily be compared against alternative offerings
- Can have contract accessible and written in plain English** e.g. important information is not 'hidden' within complex small-print e.g. a 'layered' digital contract with top-level important information quickly made clear but ability to 'click' to show the further detail
- Can be associated with hardware replacement:**
 - Can be associated with transparent replacement options

Associated with benefits

- Can be associated with N3/HSCN connection and connectivity benefits**, e.g.:
 - security/protective software/processes which protect pharmacy data and systems;
 - internet telephone options to replace or sit alongside the typical landline option;
 - a line of non-HSCN broadband for online usage not involving sensitive data transmission;
 - use of secure mobile devices within the pharmacy connected to HSCN;
 - back-up 3G/4G or dual connection to protect business continuity if the local wired internet connection is lost; and
 - wide area network (WAN) – i.e. a shared connection across multiple pharmacy branches.

Security and accuracy of information

- Can be increasingly compliant with GDPR principles** - recognising achieving GDPR compliance is a journey
- Can support generation of an appropriate copy of the patient's record** (digital or paper) for those patients that may request access
- Can have all uses of data explained within a published privacy notice**
- Can have technical questions within the Data and Security Protection (IG) Toolkit auto-populated** i.e. PMR suppliers have been invited to auto-insert answers against relevant questions for pharmacy contractors

- Can align with best practice standards** equivalent or in alignment with recognised standards such as [ISO27001](#)⁶
- Can align patient information held within the system with the Patient Demographic Service (PDS) and other available information** to ensure the information is accurate
 - Can inform the pharmacy team about the death of a pharmacy-registered patient** after the death date has been updated on the Patient Demographics Service (PDS)
- Can have anti-virus updates applied automatically** and auto-flagging of terminals which may be inadvertently missing virus updates
- Can provide physically 'locked-down' PC terminals** less easy to remove
- Can provide encrypted hard disks**

Auditability

- Can use authentication technology to allow usable and secure access to systems**, using alternatives to Smartcards, e.g. speedy 'user selection', key fob, two-factor or multi-factor authentication, and NHS login compatibility for staff

Falsified Medicines Directive (FMD)⁷

- Can allow FMD 'verification scan' of medicine packs**
- Can support stock control and warn pharmacy staff about expired packs of medicine within the pharmacy** if staff have already performed the FMD 'verification scan' for that pack
- Can enable the FMD 'decommissioning scan' of medicine packs to be performed efficiently**, e.g. using an aggregated bag label barcode
- Can recommission a medicine pack** within the 10-day window
- Can support 'scanning for accuracy'**

Exemption category processes

- Can be ready for real-time exemption checking**
- Can support exemption category processing** (before the real-time exemption checking system is in place):
 - Can support accurate recording of exemption type** when it is obtained at point of hand-out
 - Can prevent submission before exemption status altered** preventing prescriptions being submitted with 'paid' status by accident if they should have been marked exempt
 - Can use exemption expiry dates** preventing prescriptions falsely being marked 'exempt'
 - Can report exemption category summaries** to support the pharmacy manager checking that staff have entered exemption information and monthly submission form (FP34C) completion

If you have queries on this briefing or would like to suggest further features, please contact [Daniel Ah-Thion, PSNC Community Pharmacy IT Lead](#). The list will be updated based on feedback from pharmacy staff and PMR suppliers. Join the [Community Pharmacy Digital email group](#) to hear about digital, IT and EPS developments and express your views on these topics. Read more about at psnc.org.uk/systems.

About Community Pharmacy IT Group (CP ITG): It was formed in 2017 by pharmacy organisations: [PSNC](#), [NPA](#), [RPS](#), [CCA](#) and [AIMp](#). The quarterly CP ITG meetings are attended by members representing the five organisations and representatives from pharmacy system suppliers and NHS Digital. Further information on the group can be found on the [PSNC website](#).

⁶ [International Organization for Standardization's \(ISO's\) information security management system standard 27001](#).

⁷ PMR suppliers are in the process of developing FMD functionality.