

**ROYAL
PHARMACEUTICAL
SOCIETY**
Scotland

**Pharmacy 2030:
a professional vision
for hospital pharmacy**



Pharmacy 2030: a professional vision for hospital pharmacy

INTRODUCTION

Every health and care profession, every health service provider and every government is currently looking at how to recover and rebuild following the Covid-19 pandemic. In response, the Royal Pharmaceutical Society is seeking to create a new vision for pharmacy in Scotland.

This vision will be created iteratively during 2021. The reason for this is simple: it is vital that practising pharmacists and pharmacy teams across Scotland are involved in the creation of the vision so it reflects accurately the profession's views. The RPS is the only pharmacy organisation with pharmacist members across all sectors of pharmacy, enabling it to create a single vision for the whole profession. The vision was created in collaboration with pharmacy technicians and the National Pharmacy Technician Group Scotland, and in consultation with many other groups.

The first step is to understand the views of pharmacists working in community pharmacy, general practice pharmacy, hospital pharmacy and specialist settings. Focused visions for each sector will be written, clearly aligned to national strategic priorities. These focused visions will then be widely consulted on to seek views across the pharmacy profession, other health and care professions and, importantly, with patients.

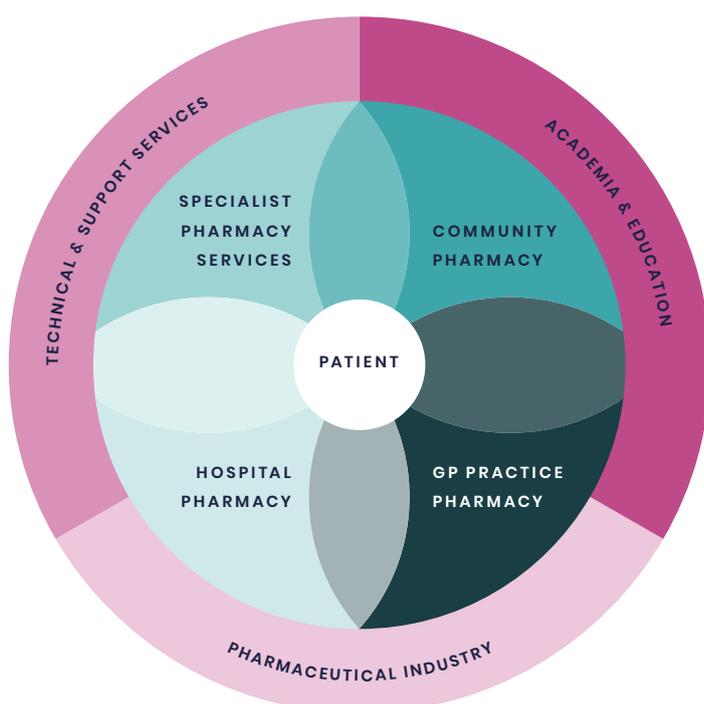
Each focused vision will consider how pharmacy will:

- Improve the safe and effective use of medicines for patients
- Address health inequalities and wellbeing for patients

They will also consider the underpinning infrastructure required to deliver this, to:

- Ensure patients receive high quality services
- Maximise innovations including digital and technology developments
- Develop the pharmacy workforce

In the autumn of 2021, this scoping work will be brought together into a single new vision for pharmacy – Pharmacy 2030 – which will demonstrate how pharmacy can work together as a whole profession, and, with the wider multidisciplinary team, to deliver seamless, person-centred care for patients.



Pharmacy 2030: hospital pharmacy

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CONTEXT

This is a professional vision for hospital pharmacy. Any contractual arrangements are out with the scope of this vision.

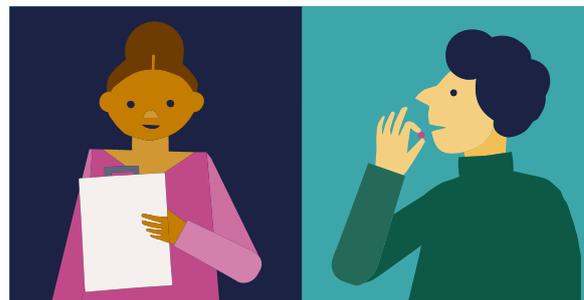
This vision was developed with pharmacy teams across Scotland. All RPS members were invited to join a short life working group by email, and social media was used to reach non-members. A survey was distributed widely, including via email and the RPS website, to collate views. Responses were also received via individual emails, messages and phone calls. Focus group discussions took place and key stakeholders were consulted, including the RPS Scottish Pharmacy Board, the National Acute Pharmacy Services Group, National Pharmacy Technician Group Scotland and other NHS pharmacists. All of their views were brought together into this vision.

KEY ROLES TO ENHANCE THE PATIENT EXPERIENCE:



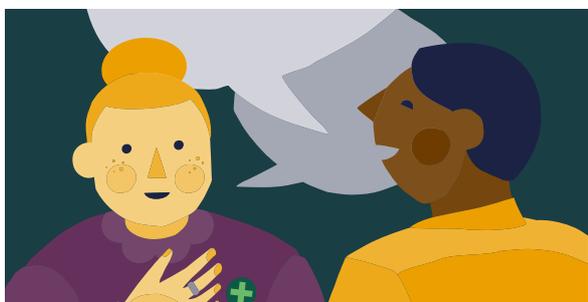
BEING EXPERTS IN MEDICINES

- Making complex decisions about patient care in a patient-facing role
- Providing expert advice on medicines to other professionals
- Providing technical expertise to ensure the quality and safety of medicines
- Leading the development of drug protocols and treatment pathways



OPTIMISING THERAPEUTIC OUTCOMES

- Prioritising pharmacist input to complex high-risk situations
- Prescribing, monitoring and adjusting medicines
- Improving medicines safety, managing risk and reducing medicines waste
- Reducing inappropriate prescribing and unnecessary polypharmacy



PROVIDING PERSON-CENTRED HOLISTIC CARE

- Consulting with patients, focusing on the patient rather than their condition
- Ensuring shared decision making using a “what matters to me” approach
- Using inclusive communication and addressing inequalities around low health literacy



LEADING MEDICINES GOVERNANCE AND SYSTEMS

- Putting in place robust standardised systems and governance on medicines for the whole hospital team to implement
- Ensuring efficient and accurate medicines systems on admission and discharge
- Leading the development of high quality evidence-based prescribing guidance
- Automating dispensing where possible including using technology-assisted accuracy checking

UNDERPINNED BY



DEVELOPING THE WORKFORCE

- Advanced clinical assessment and consultation skills, and independent prescribing
- Clear career pathways with credentialling of career stages
- Work culture of protected development, mentorship and peer networks for learning and research
- Workforce planning tools to identify pharmacy staff required to achieve safe staffing levels



DELIVERING SEAMLESS CARE FOR PATIENTS

- All pharmacy teams from all sectors working together to deliver seamless care for patients
- Pharmacy integrated within the wider multidisciplinary health and care team, with clear referral pathways



USING DATA TO DELIVER HIGH QUALITY SERVICES

- Using data to make treatment decisions and deliver personalised medicine including pharmacogenomics and advanced therapy medical products
- Using electronic decision support tools including artificial intelligence
- Using clinical outcomes data linked with prescribing data to plan, evaluate and improve services



HARNESSING DIGITAL TECHNOLOGY AND INNOVATION

- Single shared electronic patient record with read/write access for all professions to transform medicines reconciliation and deliver seamless care
- Hospital electronic prescribing and medicines administration (HEPMA) fully maximised, including prioritising pharmacist and pharmacy technician input
- Using digital consultations and remote monitoring

Section 1 Professional roles

1.1 Improving the safe and effective use of medicines

In 2030, hospital pharmacists will be recognised as medicines experts who take leadership of prescribing within hospitals. There will be a fundamental shift away from pharmacists checking other professionals' work into having a clinical, prescribing role to manage the care of individual patients. Equally important will be pharmacists in non-patient facing roles, as well as the skill mix of the wider hospital pharmacy team – pharmacy technicians, pharmacy support staff and other support staff. Together, the pharmacy team will have essential roles in ensuring safe, effective and high-quality prescribing, and medicines governance in hospitals.

1.1.1 Being experts in medicines

The key role of pharmacists, that distinguishes them from other health care professions, is expertise in medicines. Pharmacists working in hospitals are expert specialists, with a range of specialisms in both clinical and technical fields. By 2030, hospital pharmacists who have completed their training may become "advanced specialist pharmacists" in their particular specialism, with some developing further into consultant pharmacists who have an influence beyond the individual hospital system to leading whole system improvements in medicines at a regional level.

Pharmacy teams in hospitals are currently valued for their role in checking other professionals' work, for example in medicines reconciliation, prescription chart review and immediate discharge letters (IDLs). This work undoubtedly delivers improvements in safety but now is the time for these manual checking processes to be radically transformed in order to release pharmacists' capacity to take on more clinical roles.

By 2030, a combination of advances in technology, good governance and enhanced roles for others, including pharmacy technicians, will improve confidence in the safety of prescribing processes. This will enable pharmacists to have a much more patient-facing role as autonomous professionals, prescribing in their own right and making complex decisions about appropriate patient care. It will result in improved patient care and reduced waiting times, including for specialist clinics.

Pharmacists' expertise in medicines will extend beyond their own practice to providing expert advice to other professionals. Within hospitals, pharmacists will be regarded as an essential member of a clinical specialty's team who are present for ward rounds and clinics. They will lead clinical teams in the writing and maintenance of drug protocols and treatment pathways, and collaboratively undertake horizon scanning in their specialty area to ensure teams can provide the gold-standard of care. They will also receive referrals from other professionals for anything related to medication. Importantly, in 2030, hospital pharmacists will have equality with other professions: there will be no additional burden to justify decisions compared with other prescribers.

Hospital pharmacy teams' roles will not end at the hospital door: they will advise and liaise with general practice, tertiary centres and community pharmacy teams in order to deliver seamless care for patients.

Expertise in medicines is not limited to patient-facing roles. The value of technical pharmacy services, such as dispensing, aseptic services, medicines information and quality assurance, will be recognised as of equal importance to patient-facing expertise. These roles are essential in ensuring appropriate quality and safety of medicines use in hospitals. Undergraduates and foundation pharmacists should be given the opportunity to gain experience in these vital roles.

1.1.2 Optimising therapeutic outcomes

In 2030, hospital pharmacy teams will optimise the use of medicines through two routes. First, they will provide expert pharmaceutical care for individual patients. Second, they will maintain a key role in educating colleagues throughout the hospital about safe prescribing, handling and administration of medicines.

Patients' length of stay in hospitals vary enormously and with this so does the opportunity for intervention. Not every patient will need pharmacy input and, in some cases, a short hospital stay may not be an appropriate time to make a medicines intervention. Equally, unless the current hospital pharmacist workforce substantially increases, it will not be possible, or necessary, for a pharmacist to see every patient. Instead of trying to achieve this aim, two key approaches will ensure that in 2030 every patient receives high quality pharmaceutical care.

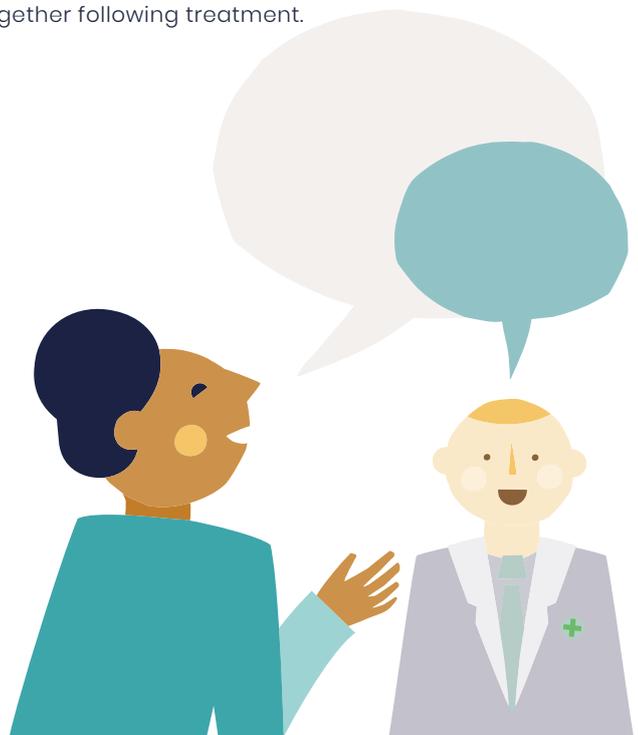
The first of these interventions is appropriate skill mix. Pharmacy technicians will have enhanced roles and so too will pharmacy support staff to facilitate pharmacists' input being prioritised to more complex, high risk situations. Specifically, these are most likely to be:

- In unscheduled care: at the start of the patient's stay in hospital when they are most unwell, at interfaces between care teams/settings, and patients receiving novel and complex therapies.
- In scheduled care: planning for surgical admissions and managing caseloads of complex patients with long-term conditions. This will include inpatients and outpatients.

The second is intelligent use of technology such as HEPMA and patient management systems will be used to identify and prioritise patients most at risk of harm where pharmacists' input will be most valuable. However, direct access to a pharmacist must be maintained for all patients as and when it is requested or required.

Where hospital pharmacy teams are involved in a patient's care, this will include the prescribing, monitoring and adjustment of medicines working alongside other healthcare professionals. By 2030, these decisions will support the delivery of many more innovative treatments, with approaches currently considered to be novel – including pharmacogenomics and personalised medicine as well as the implementation of advanced therapy (interventional) medicinal products (AT(I)MPs, ie, gene therapies, somatic cell therapy medicines and tissue engineered products) as marketed medicines and in clinical trials – all becoming more mainstream. Specialist pharmacist input will be vital around the governance, safe handling and the use of these innovative medicines, as well as managing the potential toxicity associated with them and changes in long-term therapy that are required as a result of successful use of such therapies.

Therefore, linked with use of AT(I)MPs and pharmacogenomics, as well as more widely to all medicines, hospital pharmacy teams will continue to have a key role in reducing inappropriate prescribing, reducing unnecessary polypharmacy, reducing waste and improving safety. However, for patients in hospital for just 24-48 hours, a decision will be made about whether a pharmacist's intervention might be best placed in primary care: in these situations, this will be communicated via the IDL, or e-mail referral system, that medicines have not been reviewed and primary care colleagues will be able to follow up. It may be appropriate to provide additional clinical information or recommendations to enable care to be provided in partnership with the primary care team. This will be particularly the case with AT(I)MPs where long-term medicines may need to be tapered down or stopped altogether following treatment.



1.1.3 Providing person-centred holistic care

The core role of pharmacists and pharmacy teams is to provide care for patients holistically, focused on the person rather than their condition or medicines. They will enable person-centred care by having positive conversations with patients and their families/carers, and empowering patients to make decisions about their medicines and health.

The “what matters to me” approach will be fully integrated into prescribing decisions, rather than applying population-based guidelines. This will include using the BRAN questions (benefits, risks, alternatives, nothing) to enable patients to be actively involved in decision making. It will also include the use of non-medicine options such as social prescribing and referral to third sector/community groups for options such as walking groups and other lifestyle interventions.

A key element of enabling person-centred care is conversations. Hospital pharmacy teams will be involved every day in providing education for patients about their medicines and how to take them safely and appropriately, especially those for long-term conditions that the patient will continue once they return to their own home. Pharmacy teams will be trained in effective communication and be more available for patients to seek their advice throughout their hospital stay, so they are prepared for the transition to home and managing their medicines themselves.

Hospital pharmacy teams will identify patients who may need more support in making this transition; they will liaise with teams in primary care and community pharmacy to ensure patients receive the support they need in a seamless model of care. They will also receive referrals from primary/community colleagues to support the admission process. This will be supported by improvements in digital technology that will include a single shared patient record that can be accessed by patients and will reduce duplication of work at admission/discharge from hospital (see underpinning infrastructure section).

A person-centred approach will also be taken in the development of new hospital pharmacy services, so that patients are not only consulted with but are actively involved in the co-design of services.

1.1.4 Leading medicines governance and systems

Hospital pharmacists and pharmacy teams will continue to have an essential role in medicines governance to ensure the safety and quality of medicines use in hospitals. In 2030, hospital pharmacy teams will take leadership of prescribing and all aspects of medicines governance within the acute setting.

However, the crucial difference between the future and today is that in 2030, this role will be focused on putting the medicines governance systems in place and providing associated education to other members of the hospital team, not necessarily implementing the processes themselves. For example, historically other professions have expected pharmacists to deliver medicines reconciliation, production of IDLs and safety checks: by 2030, these will be carried out by a combination of other professions and other members of the hospital pharmacy team, as well as through advances in technology.

Pharmacists will have an essential role in developing and maintaining local prescribing guidance and treatment pathways that underpin clinical care in hospitals. This will be based on robust evidence and national guidelines to ensure prescribing is high quality, as well as providing guidance and advice where evidence is lacking. Pharmacists will take the lead in this area while ensuring the multidisciplinary team is fully involved in these development groups.

1.1.5 Supplying medicines

In 2030, hospital pharmacies will have been modernised. Pharmacy technicians will manage and run dispensaries, and will manage the assembly and distribution of medicines. However, this process will be automated as much as possible. Accuracy checking will be automated through scanning technology, releasing both pharmacists and pharmacy technicians from a purely manual accuracy checking process. This reduces workload and increases safety. In some hospital pharmacies, further automation will take place via robotics.

Within each NHS board, hospital pharmacy services will include supply of medicines to hospital wards and departments. Compliance with local formulary processes and ensuring safe prescribing, including antimicrobial stewardship, will be built in.

Some aspects of medicines supply may be centralised within an NHS board and for specific groups of medicines this may include regional responsibilities across several boards.

A further element to the centralisation of services will be that NHS boards will take a collaborative approach and share best practice. For example, current Advanced Therapy Treatment Centres work across large regions to deliver advanced therapies based on collaboration. These models may include centralised supply of medicines, but may also be based on local supply with collaboration around practice and processes.

Hospital pharmacy teams will have a reduced role in discharge medicines. The process of supplying discharge medicines – from prescription, to sending to the pharmacy, to assembly of the prescribed items, to returning to the ward – frequently adds waiting times to discharge. Therefore, a resourced model of discharge medicines being supplied by the patient's community pharmacy should be introduced before 2030. Resource would include clinical information (preferably via a single shared patient record), referral pathways and appropriate financial support.

Through improved education and processes, hospitals will reduce the number of recommendations for compliance aids, instead recommending and implementing other methods of supporting medication administration such as reminder tools. Where appropriate, hospital teams will refer to medicines' compliance service/interface technicians within primary care teams to carry out a proper assessment in a patient's home.

1.1.6 Skill mix in pharmacy team

By 2030, all hospital pharmacy teams will have appropriate skill mix and staffing levels to meet the Safe Staffing legislation requirements. Skill mix will ensure staff are undertaking roles at the top of their capabilities to get the best from the workforce, motivate staff and deliver the best care for patients. Teams will be comprised of pharmacists, pharmacy technicians and pharmacy support staff with close working with other professionals eg, IT. Their roles are:

Roles of pharmacists:

- Recognised in hospitals as medicines experts
- Providing clinical care: reviewing patients, prescribing and monitoring medicines

- Leading medicines management processes and policy development: medicines governance, safety, optimising treatment, education and supply of medicines across the hospital system
- Providing essential input into hospital ward rounds, MDT case based discussions, actively prescribing and influencing decisions
- Providing specialist clinics in outpatient settings
- Providing advice and education on medicines to other professionals, including mentoring other members of the hospital pharmacy team and other prescribers
- Focusing clinical care on high-risk situations
- Acting autonomously as a professional taking responsibility for decision making as part of the wider multidisciplinary team
- Involvement in prescribing efficiency and quality improvement work

Roles of pharmacy technicians:

- Leading and managing admission medicines process
- Leading and managing discharge medicines process
- Supporting medicines reconciliation: in the short term this is a technical check but in the longer term, the introduction of a single medication record should eliminate the technical part of medicines reconciliation. However, a check with the patient will always be required to confirm what medicines the patient is actually taking
- Undertaking patient assessment and clinical review within clearly defined standards and protocols
- Monitoring effectiveness and toxicity of medicines
- Assessing and improving compliance with medicines
- Overseeing the supply of medicines to wards
- Managing medicine safety alerts
- Overseeing prescribing efficiency and quality improvement work
- Communicate with others across care interfaces to ensure smooth transition of patients and their medicines
- Providing advice and education on medicines to other professionals, including mentoring other members of the hospital pharmacy team and referring where appropriate

- Acting autonomously as a professional taking responsibility for decision making as part of the wider multidisciplinary team

Roles of pharmacy support staff:

- Dispensing prescriptions
- Dispensary stock management, dealing with medicines supply issues and supporting medicines supply processes
- Assessing patients' own drugs for use and compliance
- Providing advice to patients about medicines
- Supporting patients to self-manage their medicines
- Supporting pharmacy technicians with prescribing efficiency audits and other improvement work

In 2030, hospital pharmacy services will be available 7 days a week so that patients get equitable access to services no matter what day they are admitted.

1.1.7 Delivering seamless care for patients

By 2030, pharmacists will work as one profession, removing current barriers created by silo working in different sectors. Instead, all pharmacists will recognise the skills of their colleagues and work to ensure seamless transitions of care for patients as they move around the health service. Pharmacists will stop being described by their location but by their skills. Similarly, pharmacy technicians working in different sectors will work as one profession.

An example of seamless care is a pharmacist working in hospital, or member of the MDT, asking a pharmacist working in general practice to implement a patient's dose tapering plan post-discharge. This seamless care will extend beyond pharmacy teams to the wider multidisciplinary team, including GPs, nurses, carers and allied health professionals.

Within multidisciplinary teams, pharmacists will be recognised as the medicines experts to provide advice and enable decisions about individual patient's care. They will provide evidence based prescribing advice to the team to ensure prescribing is safe, effective, cost-effective and appropriate for patients and to advise in situations where evidence is lacking. In hospitals, clinical specialties will see pharmacists as integral members of their team rather than visiting from the pharmacy team.

This recognition of pharmacists' roles, as well as pharmacists recognising the roles of other MDT members, will be enabled by integrated learning approaches throughout training for all health professions.

Strategic Links

Scotland's National Clinical Strategy states:

"The contribution of pharmacists can be considerably enhanced, with their expertise in ensuring that people with complex medication regimes have their care optimised, and the potential for side effects or harmful interactions reduced."

Achieving Excellence in Pharmaceutical Care says:

"Pharmacy resource can be targeted through a triage model focusing on high risk and complex cases." And "It will be important to gain a better understanding of the appropriate skill mix of pharmacists and pharmacy technicians required."

The ALLIANCE's recent report on Health and

Wellbeing priorities for the future which states care should be "flexible, person-centred which recognises the holistic nature of individuals" and that "being involved in the decision-making process and treated as an expert in their own life circumstances and care" is of the utmost importance to people.

Scotland's National Clinical Strategy said health care teams should "provide care that is person centred rather than condition focused".

The importance of shared decision making is stated in the **Chief Medical Officer's 2020-21 annual report** which says: "Serious harm can result if we don't listen to the people we care for, and if they are not given the information and support they need to make informed decisions about their care."

Shared decision making is reflected in **Achieving Excellence in Pharmaceutical Care** which states: "The evolving focus of pharmacy practice to ensure that people have an understanding of what to expect from their medication requires an acknowledgement that people and their carers rightly wish to be active partners in treatment options. This involves balancing a person's preferences and expectations alongside the provision of evidence-based interventions."

Strategic links cont'd.

Choosing Wisely BRAN questions (Benefits, Risks, Alternatives, Nothing) highlighted in the **CMO report**: “By encouraging people to use the BRAN questions, we empower them to be active partners in decisions about their care, and support them to make an informed choice.”

Achieving Excellence in Pharmaceutical Care says: “Hospital discharge can be a difficult time to support people with adherence to new medication regimens. There is a role for pharmacists and pharmacy technicians in supporting this transition by taking on a greater part in managing care prior to and during discharge and with empowerment and authority to intervene to change prescriptions if necessary.” And “there are opportunities to explore the role of community pharmacy in supplying both discharge medicines and outpatient medicines”

1.2 Addressing health inequalities and wellbeing

Health inequalities have been exacerbated by the Covid-19 pandemic. A key role for pharmacy teams is to work with health and care colleagues to reduce health inequalities, in particular by improving access to services, ensuring seamless patient journeys and involving patients in shared decision making.

1.2.1 Ensuring equity of access to services

In 2030, every patient who goes into hospital will have access to an appropriately trained member of the hospital pharmacy team when needed to ensure they receive a high level of pharmaceutical care. The hospital pharmacy team will work to help minimise health inequalities and deliver consistency in care.

Pharmacy in 2030 will play an important part in a seamless patient journey between primary and secondary care, and on to specialist services if required. This will be made easier by improved communication, shared records and equitable access to services. Where the length of stay or, in the case of outpatients, the length of consultation permits, health literacy will be assessed to enable a holistic approach to treatment to be taken and tailored care to be offered.

Any inequalities or issues such as lower health literacy and numeracy, language barriers, hearing impairment and cultural barriers identified by the pharmacy team will be addressed to ensure the patient is not disadvantaged. Approaches taken will include using alternative formats for information provision, creating psychologically informed environments to reduce stigma/enable consultations and using technology to make care more accessible.

Hospital pharmacy teams, and specialist pharmacy services, will use community pharmacy hubs to improve the accessibility of hospital medication to patients who may otherwise struggle to attend hospital. This has already been done successfully during the Covid-19 pandemic. Care may also be provided in these hubs either remotely or in person. Hospital pharmacy teams will further support access with outreach services in community settings, with pharmacists prescribing treatments for patients. The result will be that patients will have the right care in the right place at the right time.

Pharmacists will work to make medicines accessible to patients as soon as they become available. Pharmacists will work with clinical teams, pharmaceutical companies and finance partners to support local access to new medicines. Pharmacists will work at a national and local level to deliver equitable access to new and existing medication via medicines governance processes.

Equity of access also includes making population-based, as well as individual patient, decisions. By 2030, the population across Scotland will have equitable access to hospital pharmacy services. This includes clinical pharmacy services being available seven days a week, rather than just Monday to Friday which is the case in some hospitals, and a national agreement on equitable service levels (eg, number of pharmacists per bed, taking into account particular population needs such as types of hospital service, rurality and deprivation). Both approaches to improve equity of access will need to be appropriately planned and resourced.

1.2.2 Ensuring appropriate use of medicines

By 2030, pharmacy teams will lead medicines governance in hospitals, working with other healthcare professionals, to ensure the appropriate use of medicines. They will have roles in clinical governance and advisory panels on the safe use of medicines. They will work with multidisciplinary teams to provide education on risk management regarding medication and highlight each team member's role within that. This in turn will allow the whole team to comply with and take responsibility for medicines governance. This will be reflected in the safer and more appropriate use of medication and the recording of fewer medication incidents. Pharmacy teams will also undertake audit and quality improvement work.

1.2.3 Shared decision making

Health inequalities can arise when patients have a lack of information about how to manage their condition or how to take medication safely, and where patients are not enabled to make decisions about their care. They can also result in both under- and over-prescribing. Hospital pharmacy teams will be alert to these potential inequalities and will evaluate and champion solutions to optimise drug therapy.

In all consultations with patients, hospital pharmacists and pharmacy teams will enable patients to make informed decisions about their medicines, encouraging them to take responsibility for their health and to decide which medicines are right for them. This means finding out what matters to patients and providing the right information in the right way to empower patients to make informed choices.

Low health literacy is a significant barrier to shared decision making. Pharmacists and pharmacy teams will be aware of this and take actions to reduce this barrier. This means modifying their communication to enable patient participation, such as using simple language without medical jargon. It also means ensuring conversations are meaningful, recognising that some people with low health literacy are less willing to ask questions or participate in decisions because of beliefs that the health professional "knows best". Pharmacists and pharmacy teams will ensure this imbalance is addressed so that shared decision making can take place and deliver inclusive communication standards.

1.2.4 Reducing harm, waste and variation

Effective monitoring of prescribed medicines will continue to be an essential role for pharmacy teams to reduce harm from medicines. Pharmacy teams will also address inappropriate and unsafe prescribing to improve medicines safety, through both their own prescribing decisions for individual patients and putting in place effective medicines governance processes to influence the prescribing of all health professionals. Pharmacist input will be prioritised for patients at highest risk of harm or poor outcomes, and with the most complex care needs. This will include reducing potential harm associated with advanced therapy medical products.

Medicines waste remains a huge problem in the NHS, not just in financial terms but also in unrealised clinical benefits and environmental costs. Hospital pharmacy teams will reduce waste by evaluating patients' compliance (where patients have stopped medicines due to side effects or other factors, but continued to have them prescribed) and addressing this through advice, shared decision making and, where appropriate, changing medicines.

Hospital pharmacy teams are already heavily involved in reducing variation in prescribing, through developing prescribing guidelines, conducting prescribing audits, monitoring formulary compliance and other quality improvement interventions. This work will continue and, in 2030, be underpinned by improved data systems, including use of HEPMA, which will enable automated feedback as well as pharmacy teams providing education on appropriate prescribing.

1.2.5 Sustainable pharmacy services

By 2030, all pharmacy teams will be delivering greener, more environmentally sustainable services. Hospital pharmacy teams' leadership of medicines governance process will include advising on greener options in formularies as well as considering the environmental impact of different pharmaceuticals such as inhalers. This will impact not just on pharmacists' prescribing decisions but on the whole hospital team.

At an individual patient level, hospital pharmacy teams will use a person-centred approach to reduce medicines waste by only prescribing medicines a patient has agreed to take. This will also reduce the pollution of water systems with pharmaceuticals caused by patients disposing of untaken medication.

Plastic packaging will have been reduced for both pharmaceuticals and sundries. Delivery vans will be electric, and travel will be reduced through the use of remote consultations and meetings. Paper medicines administration charts and prescriptions will have been removed through the introduction of HEPMA. Work will be done on more efficient and effective supply processes to minimise waste including the use of automation.

Strategic Links

Scottish Government remobilisation plan:

“Going forward there is a need to minimise unnecessary travel and increase the focus on net zero approaches” and “We will continue to support the move to more health care being provided in the community and closer to home. We will evaluate and develop the role of virtual consultations and Covid community hubs, ensuring that the people who are most vulnerable are not missing out”.

ALLIANCE report:

“Confusing, limited and interrupted communication was frequently shared by respondents as negatively impacting their health and wellbeing, and ability to access services.”

Achieving Excellence in Pharmaceutical Care:

“We will commission work to transform the delivery of hospital pharmaceutical services and pharmaceutical care during weekdays and at weekends”.

Scottish Polypharmacy guidance:

“With up to 11% of unplanned hospital admissions being attributable to harm from medicines and over 70% of these being due to elderly patients on multiple medicines, there are significant opportunities to reduce this burden by timely and effective interventions”.

Chief Medical Officer’s annual report:

“NHS Scotland is a significant contributor to the climate emergency. It emits a large amount of greenhouse gasses, consumes huge amounts of resources and produces copious amounts of waste. We have a moral obligation to help tackle the greatest threat to human health by reducing our impact on the environment. Responsibility rests with us all.”



Section 2 Underpinning infrastructure

2.1 Using data to deliver high quality services

2.1.1 HEPMA

By 2030, Hospital Electronic Prescribing and Medicines Administration systems (HEPMA) will be fully implemented in all hospitals across Scotland. This will be a significant step forward, allowing a seamless patient medication journey within hospitals. The implementation and further development of HEPMA will be led and maintained by specialist pharmacists and pharmacy teams.

HEPMA, combined with the introduction of a single shared electronic patient record across all sectors (see section 2.2.1 below), will result in full medication histories being available as soon as the patient enters hospital. This will remove the need for time consuming and sometimes complicated medicines reconciliation, and improve safety significantly because of the reduction in transcription error. The resulting availability of medicines data will enable hospital pharmacy teams to deliver high quality services.

This same combination – HEPMA and shared electronic patient records – will also transform the information going out from hospitals, enabling a notification of admission to be sent immediately to all those involved in the patient’s care. Changes to medication will be seen immediately and, on discharge, all parties will be notified with an electronic copy of the patient discharge letter detailing current medication. This improved communication will reduce the risk to patients as well, ensuring they can focus on their recovery rather than organising their medication.

HEPMA will enable prescribing to be undertaken on the ward, stock ordered automatically from the pharmacy, and then dispensed and delivered to the ward without the need for paper forms or lengthy dispensing processes. This will release pharmacy staff time to concentrate on clinical roles.

Patients will be triaged using HEPMA or another clinical system to allow clinical pharmacists to target those high-risk patients who need pharmaceutical input as a priority. The system will also allow remote assessment of medication when appropriate and link to other clinical systems to aid triage.

To maximise the full opportunities that HEPMA offers, national working will ensure consistency of use across Scotland and equality of access for patients. A national working group, led by specialist HEPMA pharmacists, will ensure that teams adapt to the system rather than adapting the system to local processes which leads to variation in system use and service provision. Where the system does not offer what is needed, this should be discussed and addressed at a national level, co-designing improvements with the specialist HEPMA pharmacists, technicians, users and other service providers. Training and confidence in use of HEPMA is essential for not only the hospital pharmacy team, but all others involved in the prescribing and administration of medicines.

2.1.2 Clinical outcomes data

By 2030, electronic systems will allow the rapid collection and analysis of data relating to all aspects of medicines within hospitals. Data on prescribing, interventions and administration of medication will all be readily and easily available. Prescribing data from HEPMA will be examined and used quickly to allow rapid meaningful feedback to prescribers. This will include systems developed to document outpatient, homecare and day case prescribing for medicines such as biologics.



Importantly, prescribing data will be linked with patient outcomes to develop clinical outcome measures to enable the impact of pharmacy services on improving population health to be determined, rather than using proxy process measures such as biochemical markers or numbers of interventions. For example, clinical outcome measures will identify whether reducing high risk prescribing results in a reduction in harm from medicines.

Pharmacy teams will also routinely evaluate medicines administration data to identify issues and take action to address these. Pharmacy teams will be able to set up prompts and reminders to help ward staff with time sensitive medication. These actions will improve patient safety and reduce incidents relating to the administration of medicines.

Data on errors and near misses will be evaluated and root cause analysis carried out. With a more advanced system giving access to more real-time data rather than retrospective reports, medicines safety will be improved.

2.1.3 Using data to deliver high quality services

By 2030, hospital pharmacy teams will use data routinely to provide personalised care and medicines for patients. This will include both prescribing data and population health data.

Pharmacists will make prescribing decisions based on pharmacogenomics, including changing medicines and adjusting doses, to deliver a true patient centred medication service. They will also support other health professionals with understanding pharmacogenomics as well as advanced therapy medical products.

Clinical data will also be used to target pharmacy interventions. For example, pharmacy teams will use hospital admissions and discharge data to identify individual patients who need medicines related support. Biochemical monitoring parameters will be used to identify patients who may need medicine dosage regimen adjustments. Similarly, data on people with specific diseases or risk factors will be used to prioritise pharmacy input.

Pharmacy systems will also be used for more automated oversight of prescribing including monitoring drug choices and spend, with hospital pharmacy teams using this data to provide feedback to improve prescribing. The progression of data collection, using automated systems, will mean the potential for auditing all medication systems will be improved. Data analysis will allow benchmarking and the exploration of variation which will help address inequalities. Quality assurance and improvement of services through continuous clinical audit will be made easier and quicker to ensure high quality care is being provided to patients.

By 2030, HEPMA will be used to improve safety. For example, introducing electronic decision support in prescribing could highlight opportunities to review intravenous therapy and move to oral treatment or discontinue treatment eg, IV antibiotics. Hospital pharmacy teams will be central to managing decision support messaging. Decision support tools will also enable shared decision making with patients by representing data in ways which will allow patients to participate, using data in more intelligent ways to achieve personalised decisions about medicines. This will include the use of artificial intelligence (AI) which has potential in predicting outcomes, targeting intervention and decision support.

Finally, data will be used to make population-based decisions to plan services and prioritise pharmacy resources in response to local needs. This will include clinical data and workforce planning data, which will be used at both NHS board and local level to support the service planning process. Pharmacy team development of practice research to support medicines optimisation will become routine, supported by improvements in data collection that electronic systems will bring.



2.2 Harnessing digital technology and innovation

2.2.1 Technology within pharmacy processes

The biggest digital change that will have transformed pharmacy by 2030 is the introduction of a single shared electronic patient record across all health and care services in Scotland. This will be a universal patient record held in a data cloud into which every professional both reads and writes information, using their existing clinical systems as the entry point. Each professional group will have a different view according to what is appropriate for their role but the key point is that all professionals will view the same dataset.

A single patient record will underpin seamless care between all care settings. There will be no need for the technical aspects of medicines reconciliation: everyone will see and amend the same medication record. Information will be timely and accurate, it won't be lost at interfaces, and patients will have access to the record and be able to add information. Discharge prescriptions generated in hospital will be instantly accessible for primary care and community pharmacy. Information sharing from community/primary care colleagues will also help hospital pharmacists make prescribing decisions. Ultimately the single shared record will release clinicians' capacity, improve safety and enable the provision of better care for patients.

Within hospitals by 2030, HEPMA will be fully embedded and its capabilities maximised across Scotland. Electronic prescribing will make prescribing much more efficient, reducing some of the current administrative burdens for hospital pharmacy teams and increasing capacity for clinical roles. HEPMA will also be used to prioritise the highest risk patients, both in terms of their health conditions and medicines, where pharmacist input is most needed.

Digital innovation will have transformed the hospital environment in a number of areas including procurement, stock control and product quality. The dispensing process will also have been transformed, not just with HEPMA but also with scanning checking technology for accuracy checking, releasing time from manual checking. Some hospital pharmacies will use robotics for dispensing and supply, including the use of drones for transportation of medicines.

Before 2030, electronic communication between health professionals will be used routinely. This will be maximised for clinical benefit, to support seamless care between settings, such as around follow up care for patients immediately after discharge or to seek information for patients being admitted to hospital. Multidisciplinary working, team meetings and shared care across sectors will be underpinned by digital communication. Digital technology will also transform professional development, enabling pharmacy teams to be involved in multidisciplinary training, supervision and education events remotely: both to learn and as providers of education.

Technology will also be used to improve the safety of medicines administration, for example enabling remote second checks on doses for high-risk medicines and providing alerts for time-sensitive medicines.

Importantly, to ensure good governance and effective use of technology, pharmacist clinical leads will become part of the eHealth teams in NHS boards. Their role will be to plan for system changes, manage the associated clinical risks and oversee transitions.

2.2.2 Patient facing digital technology

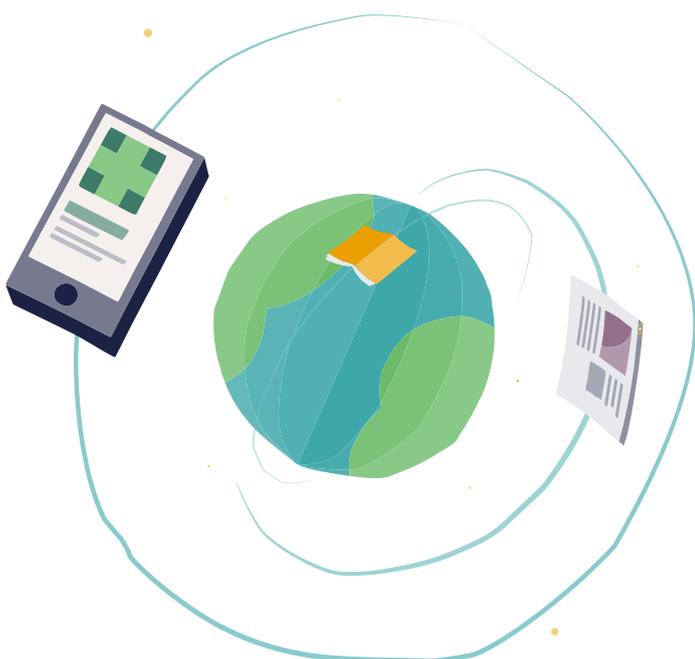
Patients have stated clearly that they want the NHS to embrace technology and pharmacy needs to respond to this. Some hospital pharmacy teams are already using remote monitoring and remote video consultations via Near Me, and by 2030 this will be routine – when it is both clinically appropriate and appropriate for an individual patient.

Technology will be used to enable patients to monitor their condition remotely and for the results to be seen remotely by health professionals. This will include wearable devices to collect data on lifestyle factors, monitoring parameters and compliance with medicines.

Additional clinical remote monitoring will range from specific parameters (eg, blood pressure) to devices such as home dialysis. Hospital pharmacy teams will use the data from this home monitoring to make decisions on patients' care.

Use of video consulting via Near Me, as well as telephone consulting, has increased dramatically during the Covid pandemic. This has improved access to services for outpatient appointments, and in some cases inpatient services too, as well as more generally improving access to specialist pharmacist advice. Remote consulting will be standard practice in hospital pharmacy services before 2030. A key benefit of Near Me is that it enables 3, 4 or even 5-way multidisciplinary team consultations through which pharmacists can remotely play a greater role in supporting patient care in both hospital and primary care settings.

However, with all digital services, it is essential to recognise that some people are digitally excluded. This can be for a variety of reasons including inability to use digital services, not being able to afford the equipment required to access digital services and inadequate internet connectivity. Hospital pharmacy teams need to be aware of this and consider non-digital options or support patients to use digital services. Similarly, all hospital pharmacy teams need to have access to the technology (reliable internet connections, equipment) to be able to use it successfully.



2.3 Developing the workforce

2.3.1 Career development

By 2030, career development pathways will be in place for all members of the hospital pharmacy team. Pharmacists in all sectors will stop identifying themselves by their location of work and describe themselves by their clinical role, in hospital this will most commonly be as advanced clinical area specialist. Career pathways will also be in place for hospital pharmacy technicians and pharmacy support staff.

Professional competency frameworks will be in place to guide pharmacists' professional and career development. Pharmacists will progress through defined career stages and associated credentialing for Post Registration Foundation, Advanced and Consultant level practice. These frameworks will encompass professional practice, collaborative working, leadership and management, education and research skills. There will be equal access to postgraduate education for pharmacists in both clinical and non-clinical roles.

Workforce planning will be carried out across Scotland and supported by experts to ensure that the right skill mix is present in every hospital pharmacy team. Before 2030, national workforce planning tools will be in place to enable hospitals to identify the numbers of pharmacy staff – pharmacists, pharmacy technicians and pharmacy support staff – needed in each location to achieve safe staffing levels. Action will be taken to address any gaps identified.

There will be a commitment to education and continual development for hospital pharmacy. By 2030, there will have been a cultural shift to a system that is committed to professional development with the infrastructure and resource in place to enable this for all pharmacy team roles. There will be a work culture that embraces supervision, teaching, mentoring and supporting others to learn. This culture will be in place from the very beginning of people's careers, so that everyone automatically shares their knowledge with others. Education supervision will be a core part of all pharmacists' roles.

2.3.2 Training and professional development

By 2030, all patient facing hospital pharmacists will have advanced clinical capabilities. This will include advanced clinical assessment and consultation skills, triaging, clinical reasoning, decision-making and risk management skills. In addition, pharmacists in clinical roles within hospital practice will be independent prescribers. These changes will be achieved via postgraduate training for those already qualified as pharmacists and through the transformational changes to initial education and training for pharmacists (undergraduate and foundation training).

All of these skills will give pharmacists the confidence to act as independent practitioners and prescribers, taking a clinical leadership role within the hospital around medicines. The whole pharmacy team will undertake training in neurodiversity, disability awareness and protected characteristics to identify and address inequalities. The whole team will also have up to date clinical skills to give them the confidence and ability to make the best use of the digital innovations in the hospital setting. Pharmacists will additionally undertake specialist training relating to their clinical or technical specialism.

Pharmacy technicians working in hospital teams will have increased clinical, consultation, monitoring and medication review skills, including observations and interpretation of blood tests. Pharmacy support staff will have a core SVQ qualification relating to their role and a modern apprentice route with accredited training will enable career progression for pharmacy support staff, including going on to train as a pharmacy technician.

Allocated protected learning time will be in place to enable professional development within working hours. Peer review will be the norm to underpin reflective practice. Professional development will include shared multidisciplinary opportunities to better understand the whole team's contribution to patient care and to improve the ability of pharmacists to take on leadership roles within multidisciplinary teams. This will start at university level and continue throughout pharmacists' careers. Professional development support will be in place for locums to ensure that appropriate backfill is available in all sectors and for all roles, including enhanced roles.

Protected learning time will not only support professional development, but also contribute to improvements in pharmacy workforce wellbeing. Alongside this, pharmacy teams will be able to take rest/meal breaks during the working day to improve wellbeing, reduce stress and with this reduce the risk of errors.

Providing education and training for others will be a key part of hospital pharmacists' roles by 2030. This will include providing experiential learning facilitation for student pharmacists, supervision for trainee pharmacists in their Foundation year and into the newly qualified post-registration Foundation programme, designated prescribing practitioner roles with trainee independent prescribers (both pharmacists and other healthcare professionals), and undergraduate and postgraduate teaching and development / peer support roles. There will be education and training support at every level all the way up to consultant. Pharmacists working in hospitals will also provide education for other health care professionals, as the clinical lead for medicines within the wider hospital team. Supervision and mentorship – both being a mentor and a mentee – will become integral to daily work. Training and support will be available to furnish pharmacists with the skills and confidence to undertake roles as mentors and educators.

Organisations will work together to enable pharmacists at all levels to have wider development experiences, such as clinical placements in different locations/settings. This will especially be the case at foundation level, where training will have changed significantly by 2030, and will enable pharmacists to undertake longer placements in multiple pharmacy settings. As a result, all pharmacists will have a far better understanding of the roles of pharmacists working in other settings, which will improve collaborative working as one pharmacy profession to achieve seamless patient care. This will also support individual movement between sectors and those in portfolio careers.

The hospital pharmacy team will have training on new digital developments, including how to adapt consultation skills to newer forms of technology. This will allow new systems to be implemented and used to their full capacity to improve processes. Pharmacists will have opportunities to develop leadership skills in digital services and informatics, mirroring the Digital Health and Care Leadership Programme open to nurses and allied health professionals. Data management skills and quality improvement training will also be in place for the whole hospital team .

Leading and participating in clinical research will be a normal professional activity for the majority of hospital pharmacists. This will be enabled by protected learning time being firmly embedded in the professional life of all pharmacists to create a research positive culture within the pharmacy team. They will also have developed research skills through postgraduate structures and be linked to research networks to enable continued development and cross-team research. Pharmacists will have an awareness of ongoing research and trials and be able to take this to the multidisciplinary team for consideration in treatment decisions, where appropriate.

Strategic Links

Scotland's National Clinical Strategy states NHS services must "collect and use more information on outcomes, especially those that matter most to patients, rather than clinical data such as biochemical or other surrogate markers"

Achieving Excellence in Pharmaceutical Care states: "Using the wealth of routinely collected health and social care data to understand better how the Scottish population use and respond to treatments is key to developing the clinical decision support tools that clinicians and the people they care for need to make the right treatment choices."

Scottish Parliament's **Health and Sport Committee report on the future of primary care** states there is "strong support for improved sharing of information among professionals, including having the ability to access and input to patient records" and "a desire for an electronic patient record shared with all relevant health professionals".

ALLIANCE endorses greater use of technology, stating: "For many people the innovative and accelerated implementation of virtual services improved access, made it quicker and supported more choices for the individual. People have welcomed the use of this technology and its wider implementation and use should continue."

Strategic Links Cont'd

Programme for Government states: "We will now move to a position of Near Me as the default option where that is right for a person and they are happy to use the service, with the aim that all health and care consultations are provided by Near Me or telephone whenever clinically appropriate." And remote monitoring

Health and Sport committee states: "The health service must now embrace new technology, stop talking about what they are going to do and start delivering a 21st century system." It found among service users "a desire for greater use of technology/wearables to monitor health with automatic submission of results to relevant health professionals".

Saving and Improving Lives: The Future of UK Clinical Research Delivery states: "Clinical research is the single most important way in which we improve our healthcare – by identifying the best means to prevent, diagnose and treat conditions. So, we need to bolster delivery of innovative research across all phases, all conditions and right across the UK".



Section 3 Additional Information

NEXT STEPS

This vision is now open for consultation until 1 October 2021. We would welcome views on this vision – from pharmacists, other health and care professionals and, importantly, the public in Scotland.

Please send any comments or arrange to speak to a member of the RPS team by contacting:
scotinfo@rpharms.com

At the same time, scoping work will take place on other areas of pharmacy practice. All the scoping work will then be brought together into a finalised single professional view for pharmacy which will describe how pharmacy can work together as a whole profession to deliver seamless, person-centred care for patients. RPS Scotland plans to publish this in autumn 2021.

ACKNOWLEDGEMENTS

With thanks to all the pharmacists and pharmacy technicians who contributed to the short life working group, and shared their views through meetings, emails and messages.

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