Transformation of seven day clinical pharmacy services in acute hospitals

September 2016

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Contact Details for further information	england.pharmacy7ds@nhs.net Office of the Chief Pharmaceutical Officer, Medical Directorate Skipton House 80 London Road London, SE1 6LH

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Transformation of seven day clinical pharmacy services in acute hospitals

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Foreword

Clinical pharmacy skills in the NHS are currently in high demand. This isn't surprising in the context of polypharmacy, suboptimal medicines use, medication error, preventable medication related admissions to hospitals, increasing antimicrobial resistance and huge and rising therapeutic costs. The knowledge and skills of the pharmacist are central to optimising medicines use to create better outcomes for patients, better value for the taxpayer and more headroom to introduce new treatments.

But a rewarding career and outlook for pharmacy professionals comes with its challenges. In common with other healthcare professions, there is notable variability in the consistency with which pharmaceutical services are provided and medicines optimisation implemented. Lord Carter's final report on NHS productivity and efficiency, published in February 2016, identified significant variations in practice, availability and deployment of hospital pharmacy services across the country. The report supported further implementation of clinical pharmacy to optimise value and outcomes from medicines, but the report also highlighted that this must done in a manner which transforms the hospital pharmacy service as a whole, creating significant efficiencies.

We know that the limited availability of patient-facing hospital pharmacy services outside of "normal hours" can lead to patients missing doses of important medicines, lack of support for junior medical and nursing staff, low levels of medicines reconciliation, delayed transfers of care and poor support for patients at hospital discharge.

Therefore, we welcome this comprehensive report and constructive recommendations which, for the first time, set out a clear and compelling vision for seven day hospital pharmacy services. We are heartened by the number of observations and case studies that describe what some organisations have already achieved and have begun to help define "what good looks like".

Transformation of hospital pharmacy services should build on this good practice whilst aligning with broader system wide transformation. We know that doing "more of the same" will not be enough to facilitate innovative changes in the ways that services are delivered seven days a week for patients.

Dr Keith Ridge CBE
Chief Pharmaceutical Officer

Professor Sir Bruce Keogh
National Medical Director
NHS England

Dr Kathy McLean
Medical Director
NHS Improvement

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1. Executive summary

Hospital pharmacy services should operate more efficiently and safely. Through the optimal use of medicines, technology and workforce, alongside collaboration amongst providers, unnecessary variation in services can be avoided. This will deliver value for money for the taxpayer and good clinical outcomes for all patients seven days a week

Why is this report necessary?

This report has been written for clinicians, managers and national bodies to promote the benefits and importance for all patients and the NHS of seven day hospital clinical pharmacy services.

The focus of this report is on patient facing clinical pharmacy services, as this is where the greatest opportunity lies to improve the quality of pharmaceutical care for patients.

This report will support delivery of the 10 seven day clinical standards as set out by the NHS Services, Seven Days a Week Forum and the Hospital Pharmacy Transformation Programme (HPTP) - as set out by Lord Carter's recent report.

Clinical standards

The NHS Five Year Forward View outlines the commitment of the NHS to ensure that hospital patients have access to seven day services where this makes a clinical difference to outcomes.

The 10 seven day clinical standards define what seven day services in hospitals should achieve, four of which were prioritised.

By 2020, 100 per-cent of the population should have access to hospital services which meet these four priority clinical standards. Hospital clinical pharmacy services can significantly support this delivery.

Why are seven day clinical pharmacy services in hospitals important?

- To enhance patient experience by giving patients the opportunity to discuss medication related aspects of their care and supporting progress through their care pathways.
- To reduce unwarranted variation in the quality of care by embedding the principles of medicines optimisation into routine practice every day of the week.
- To improve clinical efficiency and patient safety through increased deployment of clinical pharmacy staff to focus on optimal use of medicines and delivering seven day health and care services.
- To address the clinical workforce demand in hospitals, by providing a potential solution to the challenges in the recruitment of medical and nursing staff, such as the optimal use of pharmacist prescribers.

What could be done to transform clinical pharmacy into a seven day service?

Incremental changes to current services will not achieve the ambition for a high quality, affordable and sustainable seven day hospital clinical pharmacy service. Hospitals are more likely to improve efficiency and productivity if they transform services in order to meet the following needs:

- a greater focus on all patient facing medicines optimisation roles across the patient pathway;
- optimising pharmacy workforce capability to ensure an appropriate skill-mix of generalist and specialist pharmacist prescribers, clinical pharmacists and pharmacy technicians in local teams;
- implementation and the optimal use of technology, including electronic prescribing and medicines administration systems (EPMA);
- an ability to appropriately and consistently identify high risk patients and;
- collaborative working to share and consolidate non-clinical infrastructure services between hospital and primary care pharmacy services.

The challenges affecting progress

A range of factors have resulted in slow progress towards delivering seven day clinical pharmacy services in some areas. These include on-going historical service challenges, particularly around the supply of medicines, a lack of service investment, workforce capability issues and limited digital maturity.

Planning for delivery of seven day hospital pharmacy services

There is no single "one size fits all" approach and hospitals will need to consider a combination of different approaches to improve the quality of care patients receive seven days a week. This will include the following:

- Recognising the Hospital Pharmacy Transformation Programme (HPTP) plans alongside Sustainable and Transformation Plans (STPs) and Local Digital Roadmaps (LDRs) as the primary levers for delivery.
- A pragmatic and incremental approach to redesign clinical pharmacy services that will involve the optimal use of technology, workforce and infrastructure.
- Providing targeted clinical services to high risk patients.
- Better integration of clinical pharmacy professionals into the multi-professional team.
- Demonstrating system-wide professional leadership to achieve transformation and seven day services at the scale required.
- Learning and sharing practice from hospitals that have made progress, examples of which are shared in the full report.

Summary of how national/ local organisations and individuals should support delivery

1	**NHS Improvement** and **NHS England** should establish an appropriately resourced Clinical Pharmacy Reference Group, as part of the seven day services programme governance arrangements.
2	**NHS Improvement** and the **Chief Pharmaceutical Officer for England** should ensure all HPTP plans submitted in April 2017 include robust plans on how they propose to implement seven day clinical pharmacy services.
3	**The Royal Pharmaceutical Society** should develop professional guidance to support pharmacists through all stages of their career and advanced clinical practice. This will address ways of achieving an appropriate balance between specialist and generalist pharmacy practice.
4	**Health Education England** and **hospital chief pharmacists** should develop and facilitate work-based education and training to all pharmacy staff that supports them to maintain a generalist clinical competency as a component of their clinical practice.
5	**The National Institute for Health Research (NIHR),** in addition to other appropriate partners should work more closely with pharmacy professionals to identify, co-ordinate and prioritise research opportunities that contribute to the evidence base in supporting seven day clinical pharmacy services.
6	**Pharmacy professionals** should work more closely with **Academic Health Science Networks (AHSNs),** in addition to other appropriate partners to support and promote the adoption of innovative technologies and processes that reduce unwarranted variation and improve value and outcomes from medicines seven days a week.
7	**Hospital chief pharmacists** should consider terms and conditions when employing all new staff that enables work over a seven day period.
8	**Hospital chief pharmacists** should work with their **Chief Clinical Information Officer** to optimise digital systems, including electronic prescribing, closed loop medicines administration and associated decision support.
9	**Hospital chief pharmacists** should ensure that all patients admitted through urgent and emergency routes; high risk patients; and patients requiring discharge on weekends receive an appropriate clinical medication review promptly in line with the seven day services clinical standards.
10	**Hospital chief pharmacists**, with support from **Health Education England**, should aim to ensure clinical supervision for junior clinical pharmacy staff is of the same standard at weekends as during the week.
11	**Hospital chief pharmacists** should work more collaboratively with providers and commissioners across local geographies as set out by the STP and Digital Roadmap footprints – to reduce unwarranted variation, develop clinical services and promote workforce planning of pharmacists from pre-registration through to consultant-level practice.
12	**Consultant pharmacists** should have a lead role in reducing unwarranted variation in clinical pharmacy services within their area of clinical practice.
13	**Commissioners** should pursue opportunities to support access to expertise in medicines seven days a week for patients within each STP footprint by co-commissioning clinical pharmacist posts, some of which should be at consultant-level between hospitals and primary care services, in both generalist and specialist areas.

2. Why is this report necessary?

In some English hospitals, clinical pharmacy services are underutilised at weekends due to workforce capability and capacity reasons. As a consequence, patients may receive sub-optimal care in hospitals over the weekend. This report sets out ways this problem can be addressed, to improve patient experience, safety and efficiency.

The aims of a seven day health service in hospitals as outlined in the NHS Five Year Forward View[1] will only be achieved with a system-wide, collaborative approach between professions, specialisms, departments, hospitals and other parts of the health and care system.

The contribution of the non-medical workforce in supporting the NHS to deliver seven day services is currently poorly recognised. This report has been written for clinicians, managers and national bodies to promote the benefits for patients and the NHS of seven day hospital clinical pharmacy services. This will be done in the following ways:

1. Describing why seven day clinical pharmacy services are important and examining benefits to patients.
2. Setting the context of seven day clinical pharmacy services within the seven day hospital clinical standards[2] and the Hospital Pharmacy Transformation Programme (HPTP) - as set out by Lord Carter in Operational productivity and performance in English NHS acute hospitals: Unwarranted variations 2016. [3]
3. Identifying the barriers that need to be overcome and examples of how some hospitals are doing this.
4. Explaining what national/local bodies and individuals can do to expedite implementation.

This report focuses on patient facing clinical pharmacy services, as this is where the greatest opportunity lies to improve the quality of pharmaceutical care for all patients by embedding the principles of medicines optimisation [4] (see Box 1).

"Pharmaceutical care is that component of pharmacy practice which entails the direct interaction of the pharmacist with the patient for the purpose of caring for the patient's drug-related needs." - Linda Strand, (1992).[5]

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[1] Five Year Forward, October 2014: https://www.england.nhs.uk/wp-content/uploads/2014/10/5yfv-web.pdf

[2] Summary of Initial Findings, December 2013: https://www.england.nhs.uk/wp-content/uploads/2013/12/forum-summary-report.pdf

[3] Operational productivity and performance in English NHS acute hospitals: Unwarranted variations, February 2016: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/499229/Operational_productivity_A.pdf

[4] Medicines Optimisation: Helping patients to make the most of medicines, May 2013: http://www.rpharms.com/promoting-pharmacy-pdfs/helping-patients-make-the-most-of-their-medicines.pdf

[5] Strand LM. Pharmaceutical care: an introduction. Kalamazoo, Mich: Upjohn; 1992

Access to and availability of medicines (medicine supply chain) within hospitals pharmacy services is outside the direct scope of this report. However it is critical that medicines are available to patients in hospital in a safe and timely manner seven days a week as a prerequisite. This may be done in several ways, for example - the provision of central and ward based hospital dispensaries, as well as collaborative outsourced models with community pharmacy providers.

Hospital pharmacy dispensary opening hours in isolation are not always a true reflection of the availability and appropriateness of clinical pharmacy services seven days a week, which is an important consideration for regulators when inspecting hospital pharmacy services.

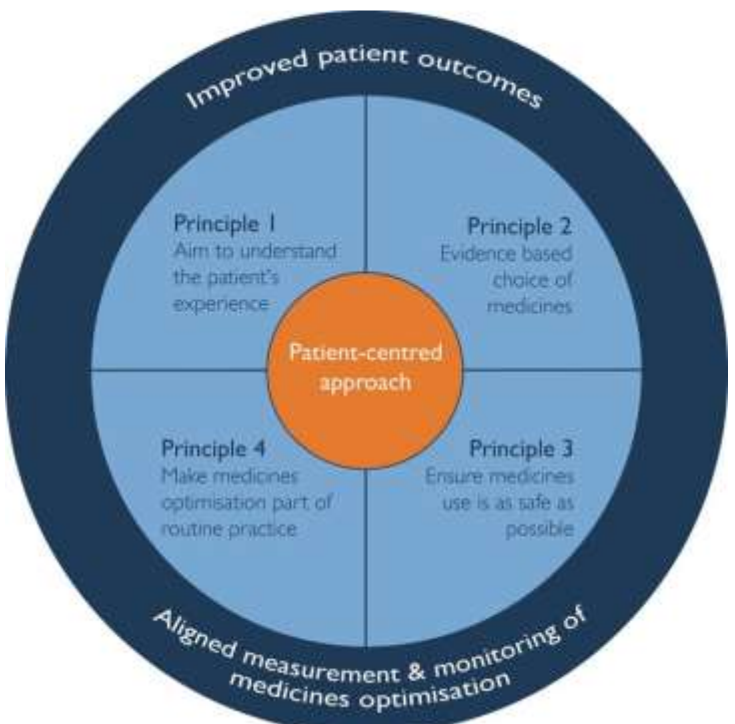
Regulators are encouraged to develop and use inspection frameworks that reflect appropriate seven day clinical pharmacy services.

BOX 1: Medicines optimisation

Medicines optimisation is about ensuring that the right patients get the right choice of medicine, at the right time. By focusing on patients and their experiences, the goal is to work with patients to: improve their outcomes; take their medicines correctly; avoid taking unnecessary medicines; reduce wastage of medicines; and improve medicine safety; underpinned by high quality initiation, review and monitoring of outcomes of medicines.

The principles of medicines optimisation are expected to be embedded nationally through NHS England's RightCare programme.
RightCare helps commissioners to make the best choices to improve patient outcomes and get the best value out of the money that they are spending. The results can be transformative; both in helping patients and freeing up funding for further innovation.

Figure 1: Summary of the seven elements of medicines optimisation



Further information: NHS RightCare Programme. Available at: http://www.rightcare.nhs.uk

3. Clinical standards

To enhance the quality of care and end variations in outcomes when patients are admitted to hospitals unexpectedly through urgent and emergency routes at weekends.

The NHS Five Year Forward View[1] outlines the commitment of the NHS to ensure that all hospital patients have access to seven day services where this makes a clinical difference to outcomes.

The NHS Services, Seven Days a Week Forum Summary Report sets out 10 clinical standards, supported by the Academy of Medical Royal Colleges, to define what seven day services in hospitals should achieve (see Box 2). [6]

Four of the 10 clinical standards were prioritised, as those likely to have the biggest impact in reducing the variation in mortality risk associated with weekend hospital admissions.[7] By 2020, 100 per cent of the population should have access to hospital services which meet these four priority clinical standards.[8]

100 per cent of the population should also have access to seven day urgent network specialist services which deliver - vascular, stroke, major trauma, heart attack and children's critical services that meet these four priority clinical standards by autumn 2017. Medicines have a vital role to play in the management of these associated conditions.

It is also important that hospitals continue to make progress towards the other six standards as they are critical to improving the quality of care and patient flow in hospitals every day of the week.

Hospital clinical pharmacy services can make a significant contribution to the delivery of the 10 seven day clinical standards.

BOX 2: The 10 seven day clinical standards for hospitals

1. Patient experience
2. Time to consultant review *
3. Multi-disciplinary team review
4. Shift handovers
5. Access to diagnostics *
6. Access to consultant-directed interventions*
7. Mental health
8. On-going review *
9. Transfer to primary, community and social care.
10. Quality improvement

***The four priority clinical standards.**

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[6] Seven Day Services Clinical Standards, February 2016: http://www.nhsiq.nhs.uk/media/2638611/clinical_standards.pdf
[7] Evidence base and clinical standards: https://www.england.nhs.uk/wp-content/uploads/2013/12/evidence-base.pdf
[8] Seven Day Hospital Services: https://www.england.nhs.uk/ourwork/qual-clin-lead/seven-day-hospital-services/

4. Why are seven day clinical pharmacy services in hospitals important?

To embed medicines optimisation into practice every day of the week, ensuring patients get the best outcomes from the medicines that they use and the taxpayer gets the best value for money.

Pharmacy services have been historically focussed on the safe supply of medicines, ensuring these were available at the right time and in the right place.

Clinical pharmacy services were only available Monday to Friday with some hospitals providing a 'medicine supply only' service at weekends. This service was often provided from central hospital dispensaries, where pharmacy teams had limited access to patients and medical notes.

This created safety concerns as well as inefficiencies for pharmacy, medical and nursing staff, as it required them to leave hospital wards to access central pharmacy services.

Since the 1990s, a range of ward-based clinical pharmacy services have evolved which have improved clinical practice with medicines by increasing quality and safety; improving clinical efficiency; supporting the multi-professional team; and helping patients make best use of their medicines.

As the extent of these services has evolved, so has the demand for them. This has led to progressive hospitals, extending the provision of clinical pharmacy services into evenings and weekends.

In Seven Day Services in Hospitals,[9] The Royal Pharmaceutical Society captured emerging practice from some hospitals and made recommendations to the profession to support implementation. It described pharmacy services as the "golden thread of seven day healthcare".

Unwarranted variation

It is critical that variation in quality of care and the gap between the best and worst performing hospitals is reduced – to ensure the standard of quality for all patients is improved.

Data from an NHS benchmarking exercise[10] showed variation in the number of hours of clinical pharmacy service provided between weekdays and weekends, and across various hospitals.

From the 123 hospitals who participated, the data showed approximately 50 per-cent provided some degree of ward based clinical pharmacy service provision on weekends.

[9] Seven Day Services in Hospital Pharmacy, 2013: http://www.rpharms.com/support-pdfs/rps---7-day-report.pdf

[10] Pharmacy and Medicines Optimisation Provider Project Report, July 2015: http://www.nhsbenchmarking.nhs.uk/CubeCore/.uploads/MemberFiles/NHSBNPharmacyReport2015.pdf

The remainder of the hospitals either provided only dispensary based medicine supply services or no weekend pharmacy service at all. As a result, opportunities for optimising patients' medicines and care are being missed.

To improve the patient experience and flow through hospitals

Improving the availability of clinical pharmacy teams across weekends will enhance a patient's experience in hospital, through working closely with patients, doctors and nursing staff to choose, prescribe and monitor clinical outcomes of medicines.

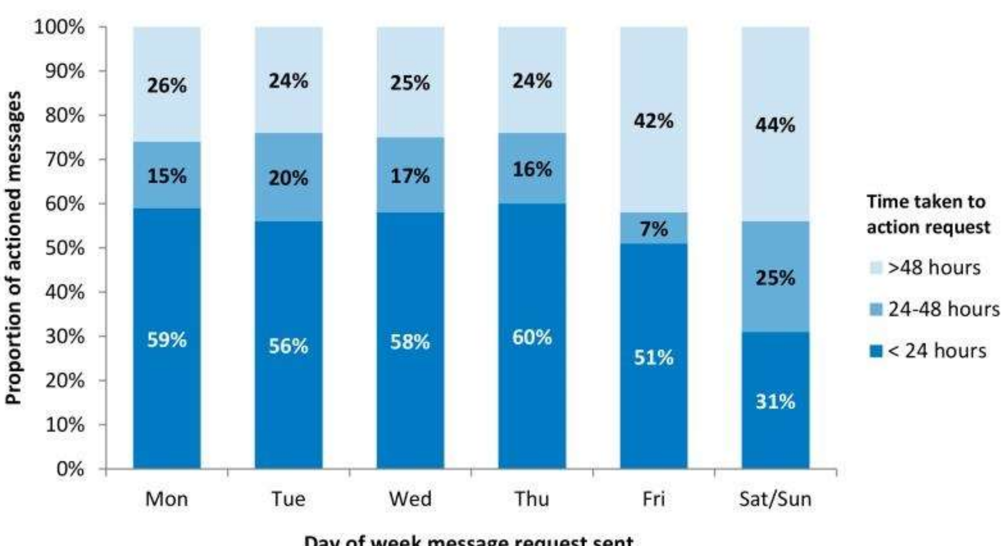
Through the implementation of the principles of medicines optimisation (see Box 1) every day of the week, all patients and their carers have more of an opportunity to gain a better understanding of their medicines. [11]

[11] Medicines optimisation dashboard: https://www.england.nhs.uk/ourwork/pe/mo-dash/

CASE STUDY: Pharmacist-physician communication across the working week

A study conducted at a large acute NHS hospital found that 98.6 per cent of all pharmacist messages to doctors sent via the electronic prescribing system occurred between a Monday and Friday, and that nearly one quarter (22.9 per cent) of these were made on a Monday. In addition, when the pharmacists' messages requested an action to modify a prescription, this was significantly less likely to occur within 24 hours if the message was sent on a Friday ($p=0.001$) or over the weekend ($p<0.001$) compared to a Monday (see Figure 2).

Figure 2: Time taken for prescribers to action pharmacists' requests by the day of the week messages are sent.



The authors concluded that doctors may spend less time interacting with a patient's prescription profile over the weekend or do not prioritise pharmacists' messages when services are typically reduced. They suggest that a reduction in the presence of ward pharmacists at the weekend is likely to be a contributing factor to the delay observed; their presence acting as a visual or verbal prompt on weekdays for physicians to pay attention to medication-related tasks and in a timelier manner.

Pontefract SK, Hodson J, Marriott JF, Redwood S, Coleman JJ (2016) Pharmacist-Physician Communications in a Highly Computerised Hospital: Sign-Off and Action of Electronic Review Messages. PLoS ONE 11(8): e0160075. doi:10.1371/journal.pone.0160075

The current variability in the presence of senior clinical decision makers in hospitals at weekends, amongst other factors, can lead to longer stays in hospital than is necessary. One way to mitigate this issue is through the optimal use of pharmacist prescribers, supported by the multi-professional team. They can help ensure that appropriate prescribing decisions are made in a timely manner every day of the week.

There is also compelling evidence that clinical pharmacy services can reduce delays in transfer of care (see Box 3)[12], by being proactively involved at an early stage in care and discharge planning. This not only allows for a timely supply of medicines on discharge but also improved communication across health and care sectors, for example with general practice and community pharmacies.

In the Review of National Reporting and Learning System (NRLS) incident data relating to discharge from acute and mental health trusts 2014[13], NHS England highlighted a lack of weekend pharmacy service, amongst other factors, resulted in delays in providing medications to the patient pre-discharge.

[12] Keeping patients safe when they transfer between care providers – getting the medicines right, July 2011: http://www.rpharms.com/current-campaigns-pdfs/1303---rps---transfer-of-care-10pp-professional-guidance---final-final.pdf

[13] Review of National Reporting and Learning System (NRLS) incident data relating to discharge from acute and mental health trusts, August 2014: https://www.england.nhs.uk/patientsafety/discharge/

CASE STUDY: East Lancashire Hospitals NHS Trust – “Refer to Pharmacy”

The implementation of an electronic system that enables communication and referrals between hospital and community pharmacy teams has been received very positively, with over 2000 referrals over a six-month period.

This not only improves the quality of care patients receive, but promotes collaborative working amongst professionals across the sectors. It also leads to reduced medicines waste, as hospital-admission notification messages are also sent, typically for care home residents and blister pack users.

As we move towards a seven day health care service, collaborative models and ways of working across sectors will be required.

Electronic systems like this will support bi-directional transfer of care from hospital to community services across weekends and bank holidays, improving the patient experience.

Models of care that incorporate these principles to widen the role of clinical pharmacy during the transfer of care - will enable patients to move along their care pathway, improving both flow through hospitals and patient experience over weekends.

Alongside other hospital-based services, pharmacy has been consistently highlighted as an integral weekend service by The Academy of Medical Royal Colleges[14].

[14] Seven Day Consultant Present Care: Implementation Consideration report, November 2013: http://www.aomrc.org.uk/publications/reports-guidance/seven-day-implementation-considerations-1113/

CASE STUDY: Patient experience - difficulty accessing pharmacy services on a weekend (letter from a patient)

"I have a history of renal problems. I am used to living with mild renal colic but at times it will be severe. This weekend I have been having a tough time with extra bouts of very sharp extreme pain. I was in a different part of the country on Saturday visiting a friend when the pain became much worse. I presented myself at the closest A&E and was assessed and given various tests. (I have no problem with the treatment I received which was most satisfactory).

The doctor who treated me prescribed Morphine Sulphate. Upon her recommendation I was happy to go home and continue taking my existing prescribed medicines on the basis that the Morphine Sulphate would offer additional pain relief when the symptoms became extreme. However the doctor was most apologetic when she had to advise me that the hospital pharmacy was only open at weekends between 9am and 1.30pm nor could I obtain the prescription from a community pharmacy. She did advise me however that I would be able to present the prescription at my local hospital (in my home town) the following morning. I left with that intention. Having lived with pain for more than 20 years I thought I could manage until then, but also knew that I could return to A&E if I needed to.

I managed little sleep Saturday night and this morning my partner drove me to my local hospital pharmacy. I was very distressed to find that it was not open at all on a Sunday. I went to the adjacent clinic, where a helpful doctor provided me with a prescription that I could use in a community pharmacy.

I am very concerned about this state of affairs; not just for myself but for the other patients who will similarly be suffering and I request your urgent investigation into this situation."

To improve clinical efficiency and patient safety

Lord Carter's report on operational productivity and performance estimated that up to £5 billion could be saved by reducing unwarranted variation in English non-specialist acute hospitals. The report recommended that transformations in hospital pharmacy will contribute to these savings by ensuring the optimal use of medicines seven days a week.

Increasing access to clinical pharmacy services seven days a week would improve clinical efficiency and patient safety across hospitals through:

- reduced dose omissions;
- reduced length of stay;

- reduced prescribing and administration errors;[15]
- systematic on-going review of patients on high risk medications;
- timely and safe discharge of patients with and without supply of medicines;
- improved clinical efficiency of the multi-professional team;
- optimal value from consultant weekend presence.

To address the clinical workforce demand in hospitals

Clinical pharmacy teams can contribute towards a solution to the challenges in the recruitment of medical and nursing staff and growing agency spend in some hospitals. In the context of providing seven day services, workforce issues become even more of a challenge for hospitals.

Some hospitals have employed pharmacist prescribers to take up roles that were traditionally undertaken by doctors, resulting in safety, efficiency and financial benefits. In order to effectively overcome existing challenges, a multi-professional team will be vital to service delivery to patients.

BOX 3: How medicines optimisation can support better transfer of care

- Between 30 and 70 percent of patients have either an error or an unintentional change to their medicines when their care is transferred.
- Incidents of avoidable harm to patients can result in unnecessary readmissions (around 4-5 percent of hospital admissions are due to preventable problems with medicines).
- The likelihood that an elderly medical patient will be discharged on the same medicines that they were admitted on is less than 10 percent.
- Between 28 and 40 percent of medicines are discontinued during hospitalisation and 45 percent of medicines prescribed at discharge are new medicines.
- 60 percent of patients have three or more medicines during their hospital stay.
- Adverse drug events occur in up to 20 percent of patients after discharge
- It's estimated that 11-22 percent of hospitalisations for exacerbations of chronic disease are a direct result of non-compliance with medication.

A study by Boockvar, K et al (2004) estimated that risk of an adverse drug event post-discharge increased by 4.4 percent for every drug alteration or change.

(Boockvar, K. et al (2004) 'Adverse drug events due to discontinuations in drug use and dose changes in patients transferred between acute and long-term care facilities'. Archives of Internal Medicine, 164(5):545-550)

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[15] An in depth investigation into causes of prescribing errors by
foundation trainees in relation to their medical education.
EQUIP study: http://www.gmc-uk.org/FINAL_Report_prevalence_and_causes_of_prescribing_errors.pdf_28935150.pdf

5. What could be done to transform clinical pharmacy into a seven day service?

Providing services as efficiently as possible in order to optimise both outcomes for patients and value for taxpayers is essential.

Incremental changes to current services will not achieve the ambition for a high quality, affordable and sustainable seven day hospital clinical pharmacy service. Hospitals are more likely to improve efficiency and productivity if they transform services in order to meet the following needs:

- a greater focus on patient facing medicines optimisation roles across the patient pathway;
- optimising the use of the workforce to ensure an appropriate skill-mix of pharmacist prescribers, clinical pharmacists and pharmacy technicians within local teams;
- continuing to develop pharmacist practitioners to advanced senior level and consultant level, in line with The Royal Pharmaceutical Society Faculty guidance[16];
- having an adaptable and flexible workforce to practice as generalists and specialists, with the ability to prescribe and work with greater autonomy;
- implementation and the optimal use of technology, including electronic prescribing and medicines administration systems (EPMA);
- appropriately and consistently identifying high risk patients;
- rationalisation of non-clinical infrastructure services;
- better collaborative working between hospitals and primary care services, which includes;
- workforce planning across the entire pharmacy workforce in local geographies - as outlined in the 44 Sustainable and Transformation Plan (STP) footprints[17].

The optimal use of the pharmacy workforce

In ‘Time for Training[18], Professor Sir John Temple highlighted the need for pharmacy staff to adapt working patterns and take a more active role in direct frontline patient care as part of the multi-professional team.

Developing advanced clinical pharmacy practitioners with prescribing qualifications will be increasingly important in supporting the multi-professional team.

[16] The RPS Advanced Pharmacy Framework (APF), 2013: http://www.rpharms.com/faculty-documents/rps-advanced-pharmacy-framework-guide.pdf

[17] Sustainability and Transformation Plan footprints, March 2016: https://www.england.nhs.uk/wp-content/uploads/2016/02/stp-footprints-march-2016.pdf

[18] Time for Training, May 2010: https://www.hee.nhs.uk/sites/default/files/documents/Time%20for%20training%20report_0.pdf

BOX 4: Seven Day Services Clinical Standard 8 – On-going review

Standard 8 (B) "Once transferred from the acute area of the hospital to a general ward patients should be reviewed during a consultant-delivered ward round at least once every 24 hours, seven days a week, unless it has been determined that this would not affect the patient's care pathway."

Supporting information: "Some inpatients' care pathways are not likely to be influenced by a daily consultant-led review and specialties should develop robust mechanisms to monitor the status of inpatients every 24 hours in order to safely identify them.

The decision that the patient does not need a daily consultant review should be documented, along with the plan for how the patient will be reviewed each day by the multi-disciplinary team (MDT) to ensure any signs of clinical deterioration are acted upon. The following are considerations, taken from the AoMRC, which may be used to exclude patients from requirement for daily consultant review:

- The patient's physiological safety (low early warning score (EWS)).
- The patient's level of need for further investigations and revision of diagnosis.
- The patient's level of need for therapeutic intervention.
- The level of need for communication with patient, carers, clinical colleagues.
- Their likelihood of imminent discharge. For example patients who are medically fit for discharge and awaiting a social care placement (delayed transfers of care) may not need daily consultant review unless there are signs of clinical deterioration. The effective use of the skills and experience of a multi-disciplinary team should be preserved, and this group will still need daily review with access to same day consultant advice.

One model for non-acute wards is for a consultant and a senior trainee to do a board round together and the consultant to identify patients (according to the criteria above) that may be reviewed that day by the senior trainee rather than directly by the consultant."

Further information available at: http://www.nhsiq.nhs.uk/media/2638611/clinical_standards.pdf

Where it is determined a patient does not need an on-going daily consultant review (see Box 4) there may be opportunities for innovative models of care, supported by consultant level pharmacist practitioners.

As part of a planned pilot across acute hospitals in North West London commissioners are proposing to explore and utilise the skills of junior doctors, advanced nurse practitioners and some allied healthcare professionals, to support medical consultants in ensuring patients are reviewed daily.

Senior pharmacists could extend their scope of practice, where appropriate to manage inpatient caseloads in support of this emerging model. Such developments will require the support of and close working relationships with multi-professional teams to develop robust local mechanisms that ensure safe and effective care.

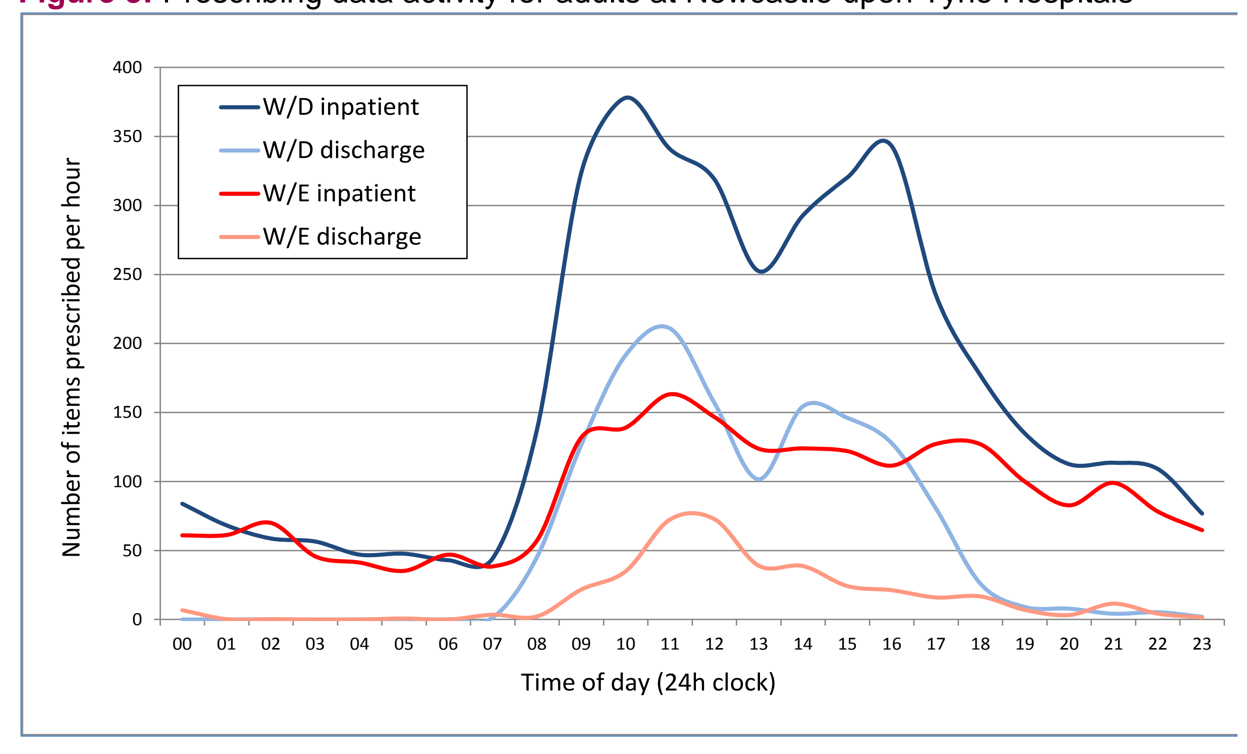
The optimal use of technology will be critical for supporting the on-going monitoring of patients, including medication changes

CASE STUDY: Newcastle upon Tyne Hospitals NHS Foundation Trust

This trust is one of several hospitals nationally who have developed and implemented a model to prioritise patients, as an enabler in providing targeted seven day clinical pharmacy services. Interestingly the pharmacy team had begun implementation of this model with the primary intention of supporting the weekend service only, however the targeting potential resulted in a transformation of clinical pharmacy services right across the week.

Electronic prescribing systems have the added value of providing intelligence of prescribing activity that occurs during the patient pathway in hospitals. The graph below shows the data for Newcastle, and an understanding of the pattern allows clinical pharmacy services to be targeted at peaks of activity for prescribing and discharge to improve patient flow, safety and clinical efficiency in the system.

Figure 3: Prescribing data activity for adults at Newcastle upon Tyne Hospitals



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Targeted clinical pharmacy services

Clinical pharmacy teams could systematically identify and prioritise high risk and unstable patients in hospitals at weekends through the use of technology. In the context of rising demands and patient complexity it is vital that patients who will benefit most from clinical pharmacy services are prioritised.

The benefit of clinical prioritisation is that it allows pharmacy services to focus on where the need is greatest and where it has the greatest impact on patient outcomes. The optimal use of electronic prescribing, in addition to other dedicated software programmes, improves visibility of medication issues across the entire hospital. This allows a model for safe and efficient targeted clinical pharmacy services.

6. The challenges affecting progress

Recognising the potential barriers that we need to overcome helps plan for success.

A range of factors have resulted in slow progress towards delivering seven day clinical pharmacy services in some areas. These include on-going historical service challenges, particularly around the supply of medicines, a lack of service investment, workforce capability issues and limited digital maturity.

Lack of shared vision and historical culture amongst the workforce

From engagement with pharmacy leaders, it has been recognised that there is a cultural challenge within the profession to move towards seven day services. Enhanced weekend hours and shift working have contributed to a minority of hospital pharmacy staff deciding to practice in other NHS sectors.

It is important to note that providing a seven day service does not mean staff working seven days a week.

Pharmacy professionals are becoming increasingly recognised as an integral clinical workforce that the NHS and patients benefit from.

Pharmacy transformation in primary care and out of hospital settings

Although out of hospital services are beyond the scope of this report, it is important to appreciate that the delivery of seven day services is also the ambition within these sectors.

As set out in the General Practice Forward View[19], NHS England has committed to extending the clinical pharmacist in general practice programme. The offer will enable every practice to access a clinical pharmacist across a minimum average population of 30,000 – leading to an extra 1,500 pharmacists in general practice by 2020.

Subject to a separate consultation, proposed reforms for community pharmacy will help integrate their skills fully into primary care, including linking with GP practices, care homes and the urgent care and emergency care pathway.

This transformation of pharmacy services will be integral in supporting improved access to general practice and integrated urgent care seven days a week, in line with the seven day NHS vision.

Another challenge will be in continuing to join up pathways of care across all sectors so that patients have a seamless experience. This will include optimising technology during the transfer of care of patients, greater access to a shared patient record and electronic prescribing at the point of care.

Progress with the transformation of pharmacy services in primary care will present opportunities for hospital

[19] General Practice Forward View, April 2016: https://www.england.nhs.uk/ourwork/gpfv/

services to deliver clinical efficiencies and improve the patient experience. This may be through collaborative models, including shared centralised medicine supply functions as well as clinical referrals and handovers.

Operational limitations

Pharmacy staff in some hospitals are currently subject to working terms and conditions, which reduce their flexibility to be able to support seven day services. A combination of sophisticated rostering and outlining workforce expectations about a seven day clinical pharmacy service may be needed to address this issue.

Traditionally, pharmacy staff working a weekend rota shift may accumulate hours above that of a contracted week. This may then have a knock-on effect on service provision during the following week as accumulated time is taken in lieu.

Adaptability and capability of pharmacy workforce skills and knowledge

During their career, pharmacists often specialise, resulting in a more limited ability to apply skills and knowledge to practice as generalists across different clinical specialties.

Continuing to support the development of consultant level and advanced specialist pharmacist practitioners is important, however there is an opportunity to complement and build upon the added value generalist pharmacists already provide in supporting the multi-professional team. This has been recognised by The Royal Pharmaceutical Society, which seeks to address this through its proposed “Roadmap to Advanced Practice”, for both generalist and specialist pharmacist practitioners.

Limited digital maturity

The limited adoption and sub-optimal use of digital technology is a significant issue for hospital pharmacy services. The optimal use of electronic prescribing and medication administration (EPMA) systems allows high risk patients to be identified more easily, providing a platform for safer and more efficient ways of working seven days a week.

The supply of and access to medicines in hospitals

Hospital pharmacy departments need to ensure patients receive their medicines in a safe and timely manner out-of-hours and at weekends. This affects patients during their admission and when they are discharged from the hospital.

Discharge medicines are often cited as a cause of delayed transfer of care. Improvements might include:

- clinical pharmacy teams should be better embedded within the multi-professional team and involved in discharge planning;
- better use of “tracker” and other technology for patients and their medicines;

- questioning whether there is a need to supply medicines to enable discharge to take place;
- exploring with community pharmacy what their role might be in hospital discharge medication

The safe supply of medicines is integrally linked with clinical pharmacy services, however, hospitals should review the medicines supply chain to ensure that this does not adversely impact on the delivery of clinical pharmacy services, for example by requiring clinical staff to supply medicines.

Resources

It is important that the better care and efficiencies delivered by seven day clinical pharmacy services are recognised as localities consider their implementation.

7. Planning for delivery of seven day hospital pharmacy services

There is no single "one size fits all" approach and hospitals will need to consider a combination of different approaches to improve the quality of care all patients receive seven days a week.

Transformation of hospital pharmacy services

The vision

Hospital pharmacy services could operate more efficiently and safely. Through the optimal use of medicines, technology, workforce and collaboration within and across staff and organisations - unnecessary variation in services can be avoided. This will deliver value for money for the taxpayer and good clinical outcomes for patients seven days a week.

Hospital Pharmacy Transformation Programme (HPTP) plans alongside Sustainable and Transformation Plans (STPs) and Local Digital Roadmaps (LDRs)[20] will be the primary levers for enabling the delivery of seven day clinical pharmacy services. NHS Improvement will support hospitals to develop HPTP plans and hold them to account for the delivery of the recommendations in Lord Carter's report. This states that:

"The plans should ensure more clinical pharmacy staff are deployed on optimal use of medicines and delivering seven day health and care services". - Lord Carter (2016)

Transformation of existing hospital pharmacy services will create the necessary headroom to enable the re-deployment of pharmacy staff from infrastructure to patient-facing clinical roles. This will facilitate the delivery of seven day clinical pharmacy services.

It is widely acknowledged that system-wide professional leadership will be required to achieve transformation and seven day services at the scale required. Those pharmacy leaders who have already been successful in implementation have engaged with the pharmacy workforce at all levels, and have encouraged innovation in services and collaborative working across primary care settings.

Pharmacy leaders are encouraged to actively involve the junior pharmacy workforce by receiving feedback and identifying solutions to support the implementation of seven day services.

[20] Local Digital Roadmaps: https://www.england.nhs.uk/digitaltechnology/info-revolution/digital-roadmaps/

CASE STUDY: Central Manchester Foundation Trust (CMFT)

Qualitative evaluation of the experiences and opinions of junior pharmacists on the 24/7 residency service

In 2013, CMFT introduced an extended hours clinical and ward-based service into the late evening and throughout the weekend with the traditional 'on-call' pharmacist replaced by a night-shift pharmacist.

This service, delivered by a rotating team of 16 pharmacists, supports various tasks such as evening discharges, extended hours medicines reconciliations, time-critical medicine supply as well as having presence at evening clinical handovers.

- Pharmacists at CMFT perceive that the service supports the ability to access resources and better integration into the multi-professional team, which allows involvement in high-risk patients.

- Pharmacists believe they are able to impact on patient care positively through performing medicines reconciliations and reducing the number of omitted doses, including time critical medicines.

- The results also indicate that some pharmacists are concerned that fatigue may impact their ability to make clinical decisions.

- There were mixed responses regarding the support in place whilst working overnight, with some feeling there was no official support in place should they need to ask a colleague for advice.

- Pharmacists believed a number of barriers hindered the service achieving its maximal potential, including: only being based on particular wards, and not being assisted by other pharmacy colleagues when making supplies of medications, which they thought could increase their error rate.

Pragmatic and incremental approach

The case studies featured throughout this document are from hospitals that have made progress towards implementing seven day services. They all tell us the implementation of seven day pharmacy services requires a pragmatic approach, using a mix of levers for change.

Examples include reviewing the design of clinical pharmacy services, through the optimal use of technology, imaginative workforce development and the review of infrastructure services.

The hospitals have also found that it is important to be able to demonstrate the impact of the service improvement, especially to patients.

CASE STUDY: Northumbria Healthcare NHS Foundation Trust

Incremental implementation of seven day services across multiple sites impacted positively on quality and safety for patients in Northumbria.

This was indicated by medicine reconciliation within 24 hours of admission increasing over a weekend from 22 per cent to 93 per cent.

The implementation of Summary Care Records (SCR) improved access to information on medicines over weekends and subsequently improved patient safety.

480 new patients were reviewed over 12 weekends, of which SCR was accessed for 30 per cent (146) of these patients.

The data showed that for those patients SCR was used - 61.6 per-cent (90 patients) had an intervention relating to medicines that was a direct result of the ability to access the record, and improved timeliness and efficiency of the process.

CASE STUDY: Whittington Health – Integrated Care Organisation

In 2012, in response to the London Commissioning Standards of September 2011, Whittington Health invested in increased out-of-hours pharmacy provision (pharmacists and pharmacy technicians) at the same time as it invested in out-of-hours physiotherapy/occupational therapy and new acute consultants.

There is now a full clinical pharmacy service to the whole organisation Monday to Friday from 9am-6pm. At the weekend they have a full clinical pharmacy service supporting the acute admissions unit, intensive care unit, neonatal unit, children's ward and the acute surgical wards from 9am to 5.30pm. For the rest of the organisation, there is a central pharmacy service provided between 10am and 1.30pm on Saturday and Sunday, whilst also providing a 24 hour on-call service 365 days a year.

Pharmacy does not currently offer full services 12 hours a day 7 days a week, but an audit of demand on services outside of current working hours indicates that a further extension of out-of-hours working would add only marginal value while requiring significant investment.

Impact:

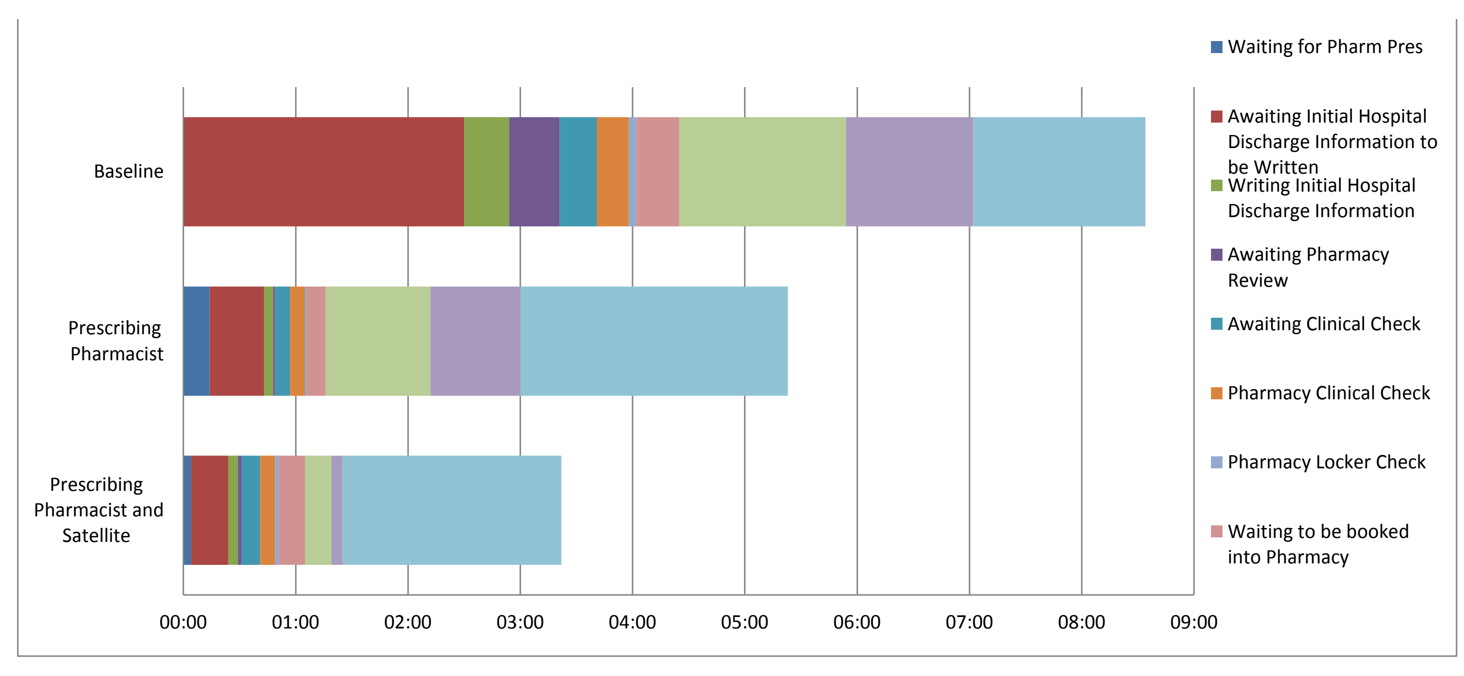
- Increased capacity to support earlier discharge over the weekend to reduce length of stay.
- Patient discharges at weekends with full medicines optimisation completed by a pharmacist.
- Junior doctors have access to pharmacist expertise on wards in high risk areas to support prescribing and treatment decisions.
- Medicines reconciliation within 24 hours for majority of patients admitted each weekend day.
- Well-designed team with clear clinical leadership, which received good feedback from service users including patients.

CASE STUDY: Lancashire Teaching Hospitals NHS Foundation Trust

Driver for change - delays in providing 'take home' medication for patients was identified as one of a multitude of factors contributing to delayed discharges and increased length of stay.
The solution - instead of opening longer hours to accommodate discharges, which results in less positive experience for patients and reduced access to community based services - the solution focused on facilitating discharges earlier in the day.
The model – pharmacists, rather than junior doctors, write the discharge prescription and take responsibility for information transfer to primary care. Medications are supplied closer to the patient's bedside using ward-based satellite pharmacies.
Key enabler – early and on-going engagement with managerial, medical, nursing and pharmacy staff to promote the potential benefits of the model, including releasing capacity of junior doctors.
Impact

- Prescribing errors identified at dispensing had reduced from 22 per cent to 0.7 per cent.
- Accuracy of communication about medications at discharge increased from 46 per cent to 99 per cent.
- Total time to discharge reduced by over 5 hours (see chart below).
- Medication ready and on the ward in just over an hour, a reduction of approximately 5.5 hours.
- Improved patient experience, allowing them to leave hospital earlier.
- Morale and professional rewards within pharmacy team, improved ability to meet targets and positive comments from clinical teams.
- Pilot will become funded seven days a week at a larger scale, improving patient flow, safety and experience.

Figure 4: Impact of a pharmacist prescriber and satellite pharmacy on the time to discharge



CASE STUDY: Nottingham University Hospitals - Integrated clinical pharmacy services on the acute medical unit (AMU)

Driver for change – increasing activity and subsequent demand within the AMU, which was supported by only one clinical pharmacist post had a negative impact on discharge process efficiency and the quality of clinical care. In addition, due to a relative undersupply of trainee doctors, a number of long-term locum doctors were required to fill rota gaps.

The change - pharmacy and the acute medicine teams worked together to create an enhanced clinical pharmacy role which integrated closely with the medical team. The idea was to replace one of the junior doctors on each ward round team with a prescribing pharmacist. These posts were attractive to pharmacists offering an opportunity to expand their traditional ward role to incorporate contribution to daily clinical ward rounds, providing timely advice on medicines optimisation, discussing the impact of changes to medications with patients and taking responsibility for completion of discharge medication.

The cost of the additional posts was covered by the local reduction in junior doctor posts, particularly those funded at locum rates, through a concurrent and large-scale rota change. Training and supervision were provided through pharmacy and acute medicine teams in combination with funded prescribing courses.

The service was incrementally extended to seven days a week and was supported by ward based dispensing services. Future service improvements include roll out to other admitting units in the hospital and seven day pharmacy services in the Emergency Department.

The impact

Area	Direction	Figure	Detail
INCIDENT REPORTS	↓	30%	Reported prescribing incidents have fallen by 30% since there has been an enhanced clinical pharmacy presence on the ward
MISSED DOSES	↓	8%	Dose omission due to drug unavailability is currently at 8%
DISCHARGE MEDICATIONS	↓	90mins	Dispensing patients' medicines for discharge directly from the ward has decreased overall processing time by up to 90 minutes
MEDICINES RECONCILIATION	↑	78%	Accurate medicines reconciliation has improved from 41% to 78% of patients on the ward
DRUG RECYCLING	↑	£1447 /month	Savings from drug recycling have averaged at £1447 per month since March 2015. Transfer of patients' medicines from admissions to subsequent wards has improved from 20% to 74%
STAFF COST	↓	£70K /month	Junior doctor premium pay has reduced by £70,000 per month as a result of a combination of Pharmacy and Advanced Nurse Practitioner integration . This has allowed rota changes and smaller salary costs compared to locum junior doctors.

Providing targeted clinical pharmacy services

Some hospitals around the country have progressed with providing targeted services to high risk patients, and report that it facilitates the delivery of providing appropriate seven day clinical pharmacy services.

A workshop was put together, inviting those hospitals to share their learning, challenges and suggestions for improvements based on their experiences. A series of guiding design principles were developed as an output to support hospitals in implementation (see Box 5).

Some of the delegates found pharmacists in their teams were not comfortable at first in not seeing every patient daily. This was supported through continued peer feedback and training across the entire workforce to build individual confidence and gain maximum value from this way of working.

Prioritisation offers hospitals an opportunity to systematically target clinical pharmacy services towards patients who are most likely to benefit. There is emerging evidence alongside examples from some hospitals to support this practice.[21]

BOX 5: Output from the workshop - 10 Design Principles for Pharmacy Clinical Triage Tools for Acute Hospitals

- Individual pharmacy practitioners must ensure the prioritisation category assigned reflects the patient's clinical state – not because of any outstanding job tasks
- Caution for individual practitioners not to be over reliant on electronic systems – the information should not replace professional clinical judgment
- Systems must be designed to improve visibility of patients across clinical areas in hospitals - not only individual wards
- Systems must be responsive and real-time – with the ability to update the prioritisation category during the patient's episode of care
- Systems must be used in collaboration with the multi-professional clinical team – not in isolation to the pharmacy team
- Systems must have clinical handover and referral capabilities - both inter and intra professionally
- Where appropriate, there needs to be clear communication to the multi-professional team when pharmacy teams will not review all patients daily - to encourage responsibility to refer as required
- Be mindful not to introduce a "referral model" - by which patients and staff have unnecessary delays to receive pharmacy input
- There needs to be consideration to the level of clinical experience and seniority within teams to support staff, as well as on-going peer review and training to ensure optimal and safe use
- Keep it simple! Do not make the system too complex with multiple parameters that do not add value

[21] Hickson RP, Steinke DT, Skitterall C,et al. Eur J Hosp Pharm doi:10.1136/

CASE STUDY: NHS Greater Glasgow and Clyde - Clinical pharmacy triage and handover service

Acute hospitals in Scotland, including across NHS Greater Glasgow & Clyde (NHS GG&C) as well as some hospitals in England have invested in electronic systems, which enable triage, prioritisation and handover of patients across multiple wards and hospital sites. In some cases this functionality is through the optimal use of EPMA systems, however in NHS GG&C this is a standalone electronic software system.

This has allowed clinical pharmacy teams to target patients with the greatest need and manage workload across the hospital to ensure patients receive maximum value from the expertise pharmacy staff provide. This way of working allows clear handover between clinical teams, visibility across all healthcare professionals and the ability to provide daily review for high risk and unstable patients. NHS GG&C agreed guidance and a common prioritisation protocol across all clinical specialties, building on work done at NHS Tayside. This has kindly been shared by them to support hospitals move towards this way of practice (see Table 1).

Table 1: NHS Greater Glasgow and Clyde prioritisation categories.

Prioritisation category		**Supporting information**
RED	Patient currently requires daily clinical review	• High risk medicine or medicine requiring therapeutic drug monitoring (TDM) • Severe chronic renal impairment (Estimated CrCl≤30ml/min) • Acute renal impairment (urea ≥ 10, creatinine ≥ 30 from baseline) • Severe hepatic impairment (LFT's ≥ 3 times upper limit of normal) • Polypharmacy >10 regular medications • Nil by mouth/swallowing difficulties • Short term use of antipsychotics/benzodiazepines in delirium/agitation • Significant drug interaction
AMBER	Patient currently requires review at frequency as deemed appropriate by pharmacist	• High risk medicine/medicine requiring therapeutic drug monitoring (TDM) • Acute renal impairment (urea ≥10, creatinine ≥30 above baseline) • Moderate hepatic impairment (LFT's elevated from normal-3x upper limit of normal) • Polypharmacy >10 regular medications • Patient predicted to undergo surgery/procedure • Nil by mouth/swallowing difficulties • Short term use of antipsychotic medicines in delirium/agitation • Falls secondary to medicines • Prolonged QTc secondary to medicines • Significant drug interaction
GREEN	Patient does not currently require further clinical pharmacist review	• Patient stable with no acute issues, currently not requiring further clinical pharmacist review

A multi-professional workforce in clinical areas

Better integration of clinical pharmacy professionals into the multi-professional team has clear benefits.

There are examples in some hospitals, such as Nottingham University Hospitals NHS Trust, that approved the appointment of pharmacist prescribers to tackle the increasing agency spend on medical staff and to support consultant-led ward rounds. This not only delivered financial savings, but improved clinical efficiency and patient safety by optimising the skill mix to provide expertise on medicines, which are the largest therapeutic intervention made in the NHS.

Innovative workforce approaches to ensure there is an appropriate skill mix of clinical pharmacists, clinical pharmacy technicians and assistant technical officers (ATOs) to support high quality care seven days a week are also beneficial. This promotes a workforce model where professionals are maximising their value to patients and the NHS.

CASE STUDY: Doncaster and Bassetlaw Hospitals

Doncaster and Bassetlaw Hospitals have implemented a workforce model that recognises all clinical staff as “specialists in clinical pharmacy”, which allows them to practice across different specialist areas as generalists in teams.

Through the optimal use of electronic prescribing systems this allows the most appropriate pharmacist within the team to review individual patients based on complexity and risk, not location. All pharmacists with a particular specialist interest, including consultant pharmacists are expected to practice as a generalist in at least 20 per cent of their role.

CASE STUDY: Barts Health NHS Trust

Clinical pharmacy technicians provide a medicines management service to Level 1 wards seven days a week at Barts Heart Centre by carrying out the following:

- review of all medication charts to co-ordinate, handover and help prioritise tasks for the pharmacist in the team
- carry out medicines reconciliation for patients newly admitted
- proactively support the efficient supply of medicines for inpatient doses and discharges through ward based dispensing
- counsel patients on the safe and effective use of their medicines, particularly on discharge.

This way of working allows a team based approach, where the skills from both pharmacy technicians and pharmacists are maximised.

As a result, pharmacists have the capacity to provide greater support to more complex patients on Level 2 and 3 wards.

CASE STUDY: Leeds Teaching Hospitals NHS Trust

Leeds Teaching Hospitals have focused on up skilling clinical pharmacy staff in their quest to be the leading seven day clinical pharmacy service in the country.

They have made progress through supporting education and training, where appropriate, to increase the breadth of competency across the workforce.

This has allowed for more flexible patterns of working to reflect local activity and an appropriate skill mix of clinical pharmacists - of which a high proportion are prescribing pharmacists.

In addition there is technical support from pharmacy technicians and pharmacy support workers, alongside consistent access to experienced specialist clinical pharmacists seven days a week.

CASE STUDY: University Hospitals of North Midlands

A number of learning points have been identified during a review after the successful implementation of a seven day pharmacy service:

- The importance of early staff engagement to deliver the culture change, as this heavily informed delivery of the service.
- The "seven-day in a row" nature of rotas (European Working Time Directive compliant) has proved unsustainable, as staff are increasingly tired and sickness levels have increased. This was advised against by the union but strongly supported by staff during the consultation.
- A "swap" process that requires approval from senior staff for weekend duties has proved successful both in terms of staff acceptability and achieving an appropriate skill mix at the weekends.

CASE STUDY: Salford Royal NHS Foundation Trust

Salford Royal, amongst several other hospitals, have described that the optimal use of EPMA has delivered clinical efficiencies by improving processes and proactively planning workload across clinical teams. Within the EPMA system they have developed bespoke reports which identify patients requiring medication reviews. This helps to plan workload at weekends and out of hours.

Pharmacy teams in Salford have found EPMA has enabled a "clinical pharmacy team" model. These teams have been designed to ensure an appropriate mix of knowledge, skills and behaviours to optimise their added value to the service. For example, each team benefits from access to a pharmacist prescriber, which helps reduce the workload and burden for the medical team, whilst improving clinical efficiency. This has enabled all complex patients to be reviewed by a senior pharmacist across a group of wards early in their stay.

The hospital is in the process of getting approval for a local protocol that separates non-medical prescribing of medicines into two formularies. One of which is for "initiation" and the other for "continuation" of treatment. This will support prescribers outside of their immediate competency area and non-prescribers in continuing treatment for patients, where appropriate without unnecessary delay to the patient. This will be particularly useful for the weekend and out of hours pharmacy services.

Currently each team has access to a mobile tablet device, with access to EPMA that has further increased the ability for safe and effective care closer to the patient's bedside.

Pharmacists on call are able to access the electronic patient record and prescription chart remotely from home. This allows them to make informed decisions and document any advice given to ensure safe handover.

Patients should not experience variations in the quality of care at weekends resulting from differences in the competency and experience of individual pharmacy professionals.

To reduce the likelihood of this occurring, a mix of potential solutions to improve workforce capability seven days a week could be deployed, such as:

- providing appropriate level of clinical supervision for junior pharmacy professionals and those practicing in unfamiliar therapeutic areas at weekends;
- adoption of a ‘clinical pharmacy team’ based model, which includes pharmacy prescribers and clinical pharmacy technicians - that is optimised for efficiency and effectiveness;
- work based education and training to address individual development needs according to the RPS Foundation and Advanced Framework, where appropriate;
- support to pharmacists to maintain an element of generalist clinical practice alongside any specialist area – to improve flexibility of the pharmacy workforce;
- workforce planning across local geographies as outlined by the Sustainability and Transformation (STP) footprints to support workforce capability and capacity challenges at weekends;
- improving the availability at weekends of senior advanced level or consultant level pharmacists for clinical support;
- providing opportunities for pharmacist posts to be commissioned across STP footprints, between hospitals and primary care services – in both generalist and specialist areas.

8. How national/local organisations and individuals should support delivery

1. **NHS Improvement** and **NHS England** should establish an appropriately resourced Clinical Pharmacy Reference Group, as part of the seven day services programme governance arrangements. This will support national policy development and collaborative delivery of seven day clinical pharmacy services at pace and scale in alignment with Sustainability Transformation Plans (STPs) and the Hospital Pharmacy Transformation Programme (HPTP). The reference group should actively engage with patients and the pharmacy workforce at all levels.

2. **NHS Improvement** and the **Chief Pharmaceutical Officer for England** should ensure all HPTP plans submitted in April 2017 include robust plans on how they propose to implement seven day clinical pharmacy services.

3. **The Royal Pharmaceutical Society** should develop professional guidance to support pharmacists through all stages of their career and advanced clinical practice. This will address ways of achieving an appropriate balance between specialist and generalist pharmacy practice, in order to improve flexibility and integration of the workforce across clinical specialities and sectors of the NHS.

4. **Health Education England** and **hospital chief pharmacists** should develop and facilitate work-based education and training to all pharmacy staff that supports them to maintain a generalist clinical competency as a component of their clinical practice.

5. **The National Institute for Health Research (NIHR),** in addition to other appropriate partners should work more closely with pharmacy professionals to identify, co-ordinate and prioritise research opportunities that contributes to the evidence base in supporting seven day clinical pharmacy services.

6. **Pharmacy professionals** should work more closely with **Academic Health Science Networks (AHSNs),** in addition to other appropriate partners to support and promote the adoption of innovative technologies and processes that reduce unwarranted variation and improve value and outcomes from medicines seven days a week.

7. **Hospital chief pharmacists** should consider terms and conditions when employing all new staff that enables work over a seven day period.

8. **Hospital chief pharmacists** should work with their **Chief Clinical Information Officer** to optimise digital systems, including electronic prescribing, closed loop medicines administration and associated decision support. This will enable the identification of high risk patients (based on locally agreed parameters, where appropriate) and facilitate safe handover and improved clinical efficiency through the use of technology.

9. **Hospital chief pharmacists** should ensure that all patients admitted through urgent and emergency routes; high risk patients; and patients requiring discharge on weekends receive an appropriate medication review promptly in line with the seven day services clinical standards.

10. **Hospital chief pharmacists**, with support from **Health Education England**, should aim to ensure clinical supervision for junior clinical pharmacy staff is of the same standard at weekends as during the week.

11. **Hospital chief pharmacists** should work more collaboratively with providers and commissioners across local geographies as set out by the STP and Digital Roadmaps footprints – to reduce unwarranted variation, develop clinical services and promote workforce planning of pharmacists from pre-registration through to consultant-level practice.

12. **Consultant pharmacists** should have a lead role in reducing unwarranted variation in clinical pharmacy services within their area of clinical practice. This should include working with NHS England's **RightCare** programme to embed the principles of medicines optimisation in practice and future closer working with NHS England's **national clinical directors** to consider how patient needs in specific areas of practice can be fulfilled.

13. **Commissioners** should pursue opportunities to support access to expertise in medicines seven days a week for patients within each STP footprint by co-commissioning clinical pharmacist posts, some of which should be at consultant-level between hospitals and primary care services, in both generalist and specialist areas.