The Planned Care Improvement Programme

Patient Flow in Planned Care
Admission, Discharge, Length of Stay and Follow-Up
The Scottish Government, Edinburgh 2007

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Chapter 1

Executive Summary

The evolution of our healthcare systems over time has led to them becoming highly complex, with resources being shared between processes for expediency’s sake to meet ever tougher patient expectations about the service they receive.

Only when we stand back from the day-to-day fire-fighting can we see that there is inherent variation in our processes and that by failing to eliminate these sources of variation we are failing to make our processes high quality, repeatable and safe. At the same time, what we also see is our teams trying to deliver services via the existing processes and systems, often through working increasingly harder and longer rather than smarter.

Consequently, our current healthcare systems often exhibit complexity and fragmentation with discreet silos of information (and treatment), controlled by separate entities with the patient left adrift feeling frustrated and dissatisfied. Organisations that are performing poorly are characterised by pushing patients through poor systems that exhibit the following characteristics:

- poorly quantified capacity and demand, often exhibiting carve out rather than planned capacity for the appropriate demand on services;
- waiting list initiatives to clear backlogs without redesign of the process;
- poor scheduling of appointments and resources with a focus on reactive counting of activity rather than proactive patient management;
- overly complex pathways and lack of consistency in systems;
- a lack of ownership and control of patients pathways;
- a lack of subsequent management of patients once they are on their pathway;
- few defined processes and/or standard working and no knowledge of pathway and/or process overlaps;
- tracking of patients on top of ineffective pathways that have not been reviewed or redesigned;
- elements of the pathway dependent upon a single person with no cross over or contingencies for absence, sometimes with the wrong person undertaking the wrong task.

The problems of delayed feedback and poor booking, administration, management and information systems, mean we often find out too late about problems in the system to take effective action. The combined effect of all these factors is poor patient flow which in turn affects quality of care, safety, patient and staff satisfaction and effective utilisation of resources.

Planned Care provision is difficult and complex. It involves community and hospital care and back again, it can cross interagency boundaries and it can also involve the independent healthcare sector. The importance of getting the flow of patients right across the whole system cannot be overstated, and whilst at times the task may seem daunting, there are certain things that we can do to make a difference.
The National Framework for Service Change outlined in “Building a Health Service Fit for the Future” published in 2005, has formed the cornerstone of subsequent plans to make sustainable improvements in the provision of healthcare to meet the changing needs of Scotland. Within that framework there are 3 key areas identified as needing clear action within Planned Care:

• Improving pre-admission processes;
• Streamlining the hospital component;
• Identifying and rolling out best practice on discharge and after care.

This document provides guidance on designing and optimising health care systems to improve Patient FLOW and subsequently focuses on three simple high impact changes that form a solid base for improvement activities across Planned Care in Scotland.

• to actively manage admissions to hospital;
• to actively manage discharge and length of stay;
• to actively manage follow-up.

The improvement of patient FLOWS can be successfully achieved by engaging local authorities and NHSScotland stakeholders, to engage fully in the patient journey and will result in:

• Improved patient outcomes and improved service quality;
• Reduced time that patients stay in hospital, improving patient experience and freeing up inpatient capacity;
• Reduced Do Not Attends, improved resource utilisation and improved overall value for money;
• Improved discharge pathways and reduced variation in length of stay;
• Improved appropriateness of care – to make sure that patients get the right treatment, from the right professional, in the right place, at the right time.
Chapter 2
Improving Patient Flow

Our healthcare systems have become complex over time with resources being shared between processes for expediency’s sake. We see that there is inherent variation in our processes, and we have not eliminated all these sources of variation to make our processes high quality, repeatable and safe. As a consequence our teams try to compensate via the existing systems, often through working increasingly harder and longer rather than smarter.

The evolution of healthcare processes over time has led to systemic issues that include: Poor scheduling of appointments and resources, overly complex pathways, a lack of ownership and control of patients pathways, a lack of subsequent management of patients once they are on their pathway, few defined processes and standard working and poorly quantified capacity and demand.

The problems of delayed feedback and poor booking, administration and information systems mean we often find out too late about problems in the system to take effective action. The combined effect of all these factors is poor patient flow which in turn affects quality of care, safety, patient and staff satisfaction and effective utilisation of resources.

Figure 2

To improve flow we need to redesign the systems and processes that produce the interruptions to patient journeys, but we need to ensure that high performance is not achieved at the expense of quality.
Effective flow is a property of the entire system; however it is often the case that teams make day to day, minute by minute decisions in their own micro-systems, without a view of the whole system. Even if they have optimised their own system, it may do nothing for the whole patient pathway.

In a report by the Kings Fund published in January 2005 into sustaining reductions in waiting times, it was found that successful Trusts started to address the task of reducing waiting times in a systematic way and persevered with the task. In the same report the following observations were also made.

- “Successful Trusts had begun to scrutinise the logistics of their hospital care processes. This involves looking at patients routes through different interventions and attempting to simplify and shorten them.”
- “Successful Trusts have a good understanding of the whole system of care….understanding the interactions that make up the system.”
- “Successful Trusts need reliable detailed comparative and continuous information. Tracking individual patients through the hospital is vital.”

The simple changes highlighted within this document are three of the fundamental building blocks in the redesign of planned care patient flows; they impact upon patient experience, access, waiting times, and the planning and understanding of system capacity. It is important, however, that any improvement activity looks at these changes within the context of a whole system change.

“Toyota revolutionised our expectations of production; Federal Express revolutionised our expectations of service. Processes that once took days or hours to complete are now measured in minutes or seconds.

The challenge is to revolutionise our expectations of healthcare: to design a continuous flow of work for clinicians and seamless experience of care for patients.”

Don Berwick, “Reducing Delays and Waiting Times Throughout the Healthcare System”. IHI 1996

The redesign of flow through healthcare processes follows four key steps:

- Simplification;
- Identification, control and elimination of variation;
- Setting up feedback and control systems;
- Managing and refining the process on an ongoing basis.
2.1 Simplification:
The first stage is to simplify the process whilst excluding any variation in demand that may be occurring. This can be done in the absence of, or whilst waiting for the demand data in a process. It is usually the starting point of many redesign efforts and in order to proceed the following checklist of questions can be helpful:

- Have you process mapped and redesigned to reduce the number of steps across the whole patient pathway in order to simplify it….e.g. have you got rid of duplicate transportation, repeat visits, duplicated paperwork, repeat checks, repeat transcriptions, copying of information, transfer of notes, filing, copying etc?
- Have you eliminated the sources of complexity in the process and simplified the flow through the process?
- Have you designed the clinic with the patient in mind, not with the needs of the hospital in mind?
- Have you optimised the patient flow using process templates, calculated the detailed resources required at each stage use process mapping, carried out time and motion studies to identify bottlenecks and reduce the effects of variation?
- Have you worked at understanding and eliminating your bottleneck resource…and getting rid of queues?
- Has your performance been improved by removing activities that do not add value for patients, and by simplifying and speeding up processes? What was your starting point?
- Have you planned the layout of the system to improve flow of patient traffic, information and staff with minimum movement of patients or staff?
- Have you planned the journey across services and regions to do the same?
- What use of technology is being made to reduce the time for information to flow in the process?

The starting point is to focus on high-volume flows of patients who follow broadly similar process steps, rather than individual specialties or conditions. Only implement changes that reduce the time that the patient is in the process and clinical or service errors.

2.2 Reducing Variation:
The Second step is to control and reduce variation. This requires extensive data collection and analysis to establish consistent, predictable work processes.

- Simultaneously, measuring demand and capacity continuously over time to fully understand the causes of variation that affect flow performance through the system. Very often the root cause of delays for patients is variability in available capacity versus actual demand - not volume of patients;
- Reduction in inappropriate and unintended variation by eliminating work procedures that do not add value;
- Standardising as much as possible to reduce variation in procedures;
- Agreeing protocols, booking rules, etc, and training everyone to the same level of skill;
- Identifying patients with similar flow characteristics and separating these flows where appropriate (patient segmentation…not carving out);
- Then, designing the system to meet the needs of each of the segmented groups and matching capacity to demand at every stage of the process.
Variation in Capacity and Demand

A variety of studies have attempted to find the causes of excessive queuing in clinical environments, the resultant backlogs and extended waiting times. Most often a perception is held that there is insufficient capacity (beds, facilities, diagnostics, doctors, nurses, etc) to meet demand, however various studies (Sylvester et al - Modernisation Agency) have found that a lack of capacity is typically not the major issue. More often the main cause of queues developing is the mismatch between demand for a service and the capacity available. In addition there is often no correlation between waiting times and the level of patient demand.

Clinical processes get into a suboptimal state because there is a poor understanding of the variation between capacity and demand. This is then exacerbated through poor yield and capacity loss at key points in a clinical process and continued running of non bottleneck parts of the process. This is fundamentally poor capacity planning, resulting in investments in “capacity” that do not actually increase the overall output from the clinical process. In some instances misjudged investment may even make a process worse.

For many healthcare managers and clinicians, the true daily demand is hidden by waiting lists; these managers and clinicians do not count the demand (requests received) and, typically, do not understand queuing theory. The majority of NHS capacity plans are based on past average activity. This does not relate to demand and in addition does not consider the variation in capacity. Indeed, it is the variation in the way that capacity is supplied in the NHS that is the major cause of the queues.

‘Carving out’ has been one of the most common strategies in the NHS for reducing particular patient waiting times. It reserves specific ‘pockets’ of capacity in the system for different types of patient, irrespective of the demand or the process variation (i.e. reserving specific slots for ‘urgent’ patients in a community clinic, operating schedule or outpatient service). As a consequence, there is a constant mismatch between case mix, process type and the reserved capacity pockets. This results in persistent queues with carved out slots not used and resources left idle.

2.3 Feedback and Control:

The third step involves setting up feedback and control systems. Because the demand and capacity for the process changes over time, setting up feedback and communication loops to monitor the variation using (SPC) Statistical Process Control methods and the application of appropriate technology and reporting tools are an essential part of an improvement process, as well as being the way to control the process.

- Use process templates to accurately plan out resources and optimise capacity at bottlenecks;
- Using SPC to monitor all stages of the process and use the information in run charts to provide the data for reporting and real-time monitoring of patient flow;
- A major problem with the usual measurement methods, is that apparent improvements in performance (waiting times, patient and staff experience, clinical outcomes, activity, cost, etc) may be due to the natural or inherent variation in performance. Even if there is a statistically significant change in average performance, the improvement is often unsustainable because the underlying causes of variability in the process have not been addressed.
2.4 Management Systems:
Finally, put in place a management system to control the process whilst working on reinforcing and improving it. For this to succeed it requires the correct management team to be in place, with responsible and accountable individuals who will champion process improvement and pull together the improvement teams with the correct skills.

- The first priority is to get engagement from staff so that an improvement culture takes root, get the teams involved, this is really necessary in particular when working across functional boundaries, work-shops, training events, suggestion boxes....“empowerment”.
- Having planned all the bottlenecks, bring together all the process templates into a single pathway document to allow pre planned progress through the pathway to be possible, from the first point of contact;
- Implement management measurement and reporting systems for improvement. These should reveal the true performance of the system and the impact of any changes made in real time, define the criteria for improvement and monitor progress of any changes;
- Test, improve and make changes to the process that the team propose using the Plan, Do, Study, Act (PDSA) technique and make sure that a supporting project management office structure is created;
- Reward successes.

2.5 Improvement Teams:
Improvements cannot take place without teams of people committed to improvement and with the knowledge required to change things. There are three generic team types that can be moulded and shaped depending on the improvement projects chosen.

Real Action Teams: these teams deal with “Real world, Real things, and Real data”. They deal with things that are physically observable, the simple/visual elements and they tend to address the physical processes that lend themselves to the use of visual analytical tools.

Flow Improvement Teams: these teams examine and deal with the horizontal flow across the process and are aligned towards patient’s requirements. These teams tend to focus on cross functional projects with requirements that are not clearly understood or agreed upon between different departments, or by people working in the progress. They take a horizontal focus across a process to understand it fully.

Lean improvement is probably best described as a systematic approach to identifying and eliminating waste (unnecessary processes, unnecessary activity, waiting lists and the waste of people’s skills) through continuous improvement activities. One of the major effects of this approach is to reduce the FLOW time. However, flow improvement is not a project or event, it is a fundamental and ongoing mindset, and it requires vision, persistence and perseverance. This approach is very people focussed and is applicable across whole organisations and healthcare systems.

Deep Analysis Teams: These teams work on complex hard to see problems and issues, they specialise in deep analysis and work to stabilize processes and eliminate variation. This team type takes a vertical approach to process analysis and goes deep inside the process to where the root cause of the problem is not readily understood. They are more analytical than a (Lean) Flow
Improvement Team. Six Sigma teams use sophisticated tools to discover root cause analysis of problems, eliminate variation, stabilise processes and sometimes even design new processes.

This approach is much disciplined and data driven. It is based upon a philosophy of continuous improvement tied to short and long term “corporate” objectives; it is a strategic initiative that drives performance at all levels of an organisation, using data from the organisation to manage the business based on how the processes are performed.

This approach drives a uniform process output, it is very problem focused, and it assumes that a problem exists and that by analysis and removal of variation the system output will improve.

Secondary effects include less waste, fast throughput, reduced waiting lists, and a robust set of management measures that gauge process fluctuation.

Both Lean and Six Sigma originated within operational environments and rely upon high performance teams and the management of the social and technical aspects of processes. They are consequently well suited to improvement activities in Healthcare, where high performing teams deliver care to patients in complex environments.

### Process Improvement Team types

- Three generic Process Improvement Team types
- Some projects appropriate for specific approach, others require a blend of skills

<table>
<thead>
<tr>
<th>Real Action Teams</th>
<th>Flow Improvement Teams</th>
<th>Deep Analysis Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify obstacles</td>
<td>Remove waste</td>
<td>Reduce variation</td>
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- Simple Visual Physically observable
- Horizontal Flow Across the healthcare delivery process ... reduced flow times
- Complex and hard to see issues, process stabilisation and elimination of variation and uniform process outputs

![Figure 4](image-url)
Chapter 3
Applying High Impact Changes

Planned Care provision is complex and involves community and hospital care, and back again, it can cross interagency boundaries and it can also involve the independent healthcare sector. Furthermore, the complexities of waiting and queuing systems in planned care are often an inexact science borne out of the complex chain of events that include referral, outpatient activity, decisions to admit, offers of admission, elective admission, treatment, discharge and follow-up. These combined processes in their entirety make up a patient’s **FLOW** through the healthcare system.

The National Framework for Service Change, outlined in “Building a Health Service Fit for the Future”, forms the cornerstone of all the subsequent plans to make sustainable improvements in the provision of healthcare in Scotland. Within the framework there were 3 key areas identified as needing clear action within Planned Care:

- Improving (pre)admission processes;
- Streamlining the hospital component;
- Identifying and rolling out best practice on discharge and after care.

The Planned Care Improvement Programme promotes **Patient Pathway Management**, as the overarching strategy that binds together the redesign of services for the benefit of the patient and delivery of sustainable performance. Patient Pathway Management promotes the reduction of variation in patient journeys, by means of the adoption of best practices implemented by the right people, in the right place at the right time across the whole patient journey.
Patient Pathway Management is grounded in the fundamental concept of FLOW across the whole system, across boundaries and across functions and consists of the following key components:

- Effective, evidence based pathway design;
- Referral Facilitation;
  - Referral Information
  - Referral Management
- Booking and Access Rules;
  - Patient Focussed Booking
  - Direct Access
- Patient tracking, management and navigation.

This document provides guidance on three evidence based changes that can be used in pathway design: actively managing admissions to hospital; actively managing discharge and length of stay, and actively managing follow-up. These changes are key building blocks in the design of patient pathway that has been properly designed to improve the FLOW of patients through planned care.
• **Actively managing admissions to hospital.**
  - Variation in the admission process can and must be managed, analysis of Scottish hospital inpatient statistics show significant numbers of patients undergoing elective operational procedures with a pre-procedure length of stay from 0 to 3 days.
  - Evidence suggests that nurse-led pre-admission clinics, with support from anaesthetists are vital to improving quality of care, reducing cancellations and increasing flows. Well run pre-admission clinics allow patients to be admitted on the day of their procedure, and give surgeons and anaesthetists the confidence that the patient has been properly prepared, informed consent has been obtained and a discharge date and plan agreed beforehand.

• **Actively managing discharge and length of stay.** Evidence suggests that there is scope for reducing the average length of hospital stays, in line with the best practice in high performing hospitals or specialties.
  - Variation in the pattern of discharge from hospital due to the way the process is managed, e.g. waiting for ward rounds that take place at set times, accessing test results or awaiting discharge prescriptions inevitably leads to variable and unpredictable length of stay.

• **Actively managing follow-up.** Evidence suggests that around 75% of failures to attend by outpatients are for follow-up appointments and that significant opportunities exist for improvements to the whole patient journey, by making improvements to the follow-up process.
  - The changes to admission and discharge will have a significant effect on streamlining and managing the hospital component of a Patient Pathway. However, there is still a lot that can be done post operatively. A significant number of follow-up appointments are made where patients are asked to return to hospital to have their progress checked, to undergo tests or to get test results. Common practice has been to invite patients for a follow-up “just in case”.
  - The first question to be asked should be “is a follow-up clinically necessary?”. If it is, then the assumption should be that it is performed in a primary care setting. Automatic hospital-based follow-up should only be used where necessary and clinically appropriate. Procedures such as wound checks and removal of sutures can effectively be managed in primary care.
  - Telephone follow-up, either conducted routinely or by providing patients with access to advice should they have any concerns can help to avoid unnecessary GP or hospital visits. Furthermore, follow-up assessment timing and outcomes can be arranged in agreement with local guidelines and protocols and potentially carried out by either nurses or AHPs.
Chapter 4
Managing Admissions

Traditionally, it has been assumed that it is emergency admissions that impact upon elective planned admissions because it is assumed that emergency admissions are highly variable and more unpredictable. However, repeated case studies have shown that elective admissions are often the major cause of variation across the system, due to the way that elective surgical scheduling is planned.

The benefits from managing the admission process include the following:

• Lower inpatient cancellation rates;
• Fewer inpatient DNAs;
• Fewer medical outliers;
• Potential for increased activity;
• Closer match between capacity and demand;
• Enhanced conditions for patients staff;
• Managed activity levels resulting in lower stress levels for staff;
• Improved patient experience through shorter waits and more timely treatment.

Managing the admission process effectively is best done by looking at two key components:

• Pre-assessment;
• Planned Admissions.

4.1 Pre-assessment:

Pre-assessment establishes that the patient is fully informed and wishes to undergo the procedure. It ensures that the patient is fit for surgery and anaesthetic. It minimises the risk of late cancellations by ensuring that all essential resources and discharge requirements are identified and planned for to avoid crisis management.

The pre-assessment clinic ought to continue the patient pathway plan from the decision to admit for surgery, in addition to planning the admission the patient should be made aware of the envisaged length of stay and have their discharge plan confirmed.

Pre-assessment makes a positive contribution to improving hospital efficiency. The NHS Modernisation Agency’s Pre-operative Assessment Project has shown that implementing pre-operative assessment can decrease the number of patients who do not attend (DNA). Although the numbers are small, DNA rates for patients who have been pre-operatively assessed are consistently lower than DNA rates for patients who have not been pre-operatively assessed.

The Association of Anaesthetists of Great Britain and Ireland list the key objective of Pre-operative assessment as:

“The aim in assessing patients before anaesthesia and surgery is to improve outcome.”
This is achieved by:
- Identifying potential anaesthetic difficulties;
- Identifying existing medical conditions;
- Improving safety by assessing and quantifying risk;
- Allowing planning of peri-operative care;
- Providing the opportunity for explanation and discussion;
- Allaying fear and anxiety.

This will only be achieved when all health professionals work as a team.

Good pre-operative assessment will help to:
- Reduce costs;
- Increase efficiency of operating theatre time.

Such action should:
- Reduce the number of patients who fail to attend on the day of surgery;
- Reduce cancellation of surgery for clinical reasons;
- Provide an opportunity to discuss with patients any self-help matters to improve outcome (e.g. stopping smoking or losing weight).

NHS Boards should work towards providing pre-assessment services across specialties, rather than developing individual services for each specialty. Booking into pre-assessment clinics should be co-ordinated, wherever possible, to coincide with outpatient appointments to prevent repeat visits for patients.

Where patients have to travel long distances for their surgical procedures, consideration should be given to delivering pre-assessment either as an outreach clinic or locally using either a closer hospital or primary care if this is appropriate. For minor procedures telephone pre-assessment should be considered and implemented.

Patient information leaflets should be available for the majority of procedures and should be provided to patients during their pre-assessment consultation. Where telephone pre-assessment is undertaken patient information leaflets should be sent to patients prior to admission.

4.2 Planned Admissions:

Planned admission to hospital should be a streamlined, efficient and smooth experience for patients and staff. Where possible, patients should be admitted on the day of surgery. Patients should be provided with relevant information advising them of actions to take on the day of admission, e.g. how to contact the admissions office to confirm bed availability.

On admission to hospital the patient should be allocated a named nurse. The named nurse or his/her deputy should carry out an initial assessment to confirm the patient’s medical and social circumstances. This assessment should be undertaken using the information gathered at the pre-assessment clinic as a confirmation procedure to ensure that there has been no significant change in the patient’s condition. This information should be used by the nursing and medical staff to plan the care and treatment required during the stay in hospital. The assessment should also confirm whether the patient is likely to require “continuing care” in the community, for example, support
from district nurses, Social Services or the local authority housing department. The patients’ discharge plan should also be confirmed on the day of admission to hospital. Early attention to patient needs will ensure that the appropriate support is planned and provided on their return home (this will avoid any unnecessary delays in the discharge procedure).

The consultant and multi-disciplinary team should discuss the likely length of stay and inform the patient of their expected date of discharge. This will be determined by the patient’s individual recovery and the kind of support available to the patient in his/her home environment.
Chapter 5
Managing Discharges

Traditionally it has been assumed that the interrelationships between elective and emergency admission patterns have been the cause of major variation in patient journeys. However, on closer analysis, the greatest variation is typically in the number of discharges. To that end, efforts to reduce variation should start with the discharge process and not the admission process. Variation in discharge process leads to variation in patient length of stay.

Both discharges and elective admissions are within our control and efforts need to be focused on the discharge process. The discharge process should start at the point of admission – if not earlier.

Discharge processes can be redesigned for both inpatient and day case procedures with a number of resultant benefits to the whole hospital system and to patients.

- Reduced cancellations of planned admissions on the day;
- Shorter lengths of stay;
- Better information for planning bed capacity;
- Reduced cost per patient episode through reduced length of stay;
- Reduced risk of patients being exposed to hospital acquired infections;
- Fewer logistical issues for staff because care is pre-planned.

NB – a decrease in very short stay patients may lead to an overall increase in Average Length of Stay for a system, and care needs to be taken in interpreting Average Length of Stay data...total patient throughput may be a suitable supporting measure in this case to illustrate effectiveness of processes.

5.1 Discharge:

Planning for discharge from hospital should start as early as possible - before admission wherever possible, especially for elective surgery. Failure to plan properly can lead to protracted stays in hospital or people ending up in the wrong place without proper care or treatment. It is important to involve all relevant members of the multidisciplinary team, particularly in determining whether the patient is safe to transfer from an acute ward.

At a ward level, systems should be in place to ensure that effective links are established with pharmacy to facilitate take home treatment packs being available in a timely manner. Ward rounds should take place as early as possible in the day to confirm discharge. Where discharge lounges are provided, they should be fully utilised to ensure that ward resources are released as early as possible in the day.

Responsibility for co-ordinating discharge should lie at ward level, particularly for the 80% of patients whose discharge is relatively straightforward. For the 20% who have more complex needs, the ward staff may need help from an integrated discharge team. Ideally this should be a team of different professionals (nurses, social workers, therapists) based together and with a single line manager or co-ordinator.
The following categories of patients were identified as having particular care needs, patients who:

- Live alone;
- Are frail and/or elderly;
- Have care needs which place a high demand on carers and carers who find difficulty coping;
- Have a limited prognosis;
- Have a serious illness and will be returning to hospital for further treatment;
- Have continuing disability;
- Have learning difficulties;
- Have mental illness or dementia;
- Have dependants;
- Have limited financial resources;
- Are homeless or live in poor housing;
- Do not have English as their first language;
- Have been in hospital for an ‘extended stay’;
- Require aids/equipment at home.

Nationally, there is well documented NHS best practice on effective discharge processes. Examples of these include: estimated date of discharge (EDD), regular morning ward rounds, a policy on (care) Home of Choice led from a senior level, nurse-led discharge arrangements, timely “to take out” medicines, well used discharge lounges, and well supported multi-disciplinary meetings.

In particular estimated discharge dates are important in clarifying expectations regarding discharge for staff, patients and carers in the case of most elective admissions. The EDD should be clearly identified in the notes or elsewhere on the ward.

All of these features, including EDD apply equally to community hospitals, even though their average length of stay is likely to be longer than acute hospitals.

Other key features for effective discharge include:

- A no blame culture and constructive relationships on the ground;
- Commitment to multi-disciplinary team meetings from all relevant agencies;
- Integrated discharge teams;
- A shared analysis of the reasons for NHS and social care delays locally;
- Not closing down options by inappropriate early messages (eg “you need a care home”);
- Regular training sessions on discharge for mixed groups of staff using anonymised or representative case examples;
- Open and healthy relationships with community services run by Primary Care, Social Work departments or others, plus a full and responsive range of post-acute options;
- Open and healthy relationships with the Scottish Ambulance Service;
- Finally, regularly reviewing the discharge experience of patients and carers should be seen as an important and regular activity.
5.2 Nurse-led Discharge

Nurse-led discharge requires nursing staff to make discharge decisions within agreed clinical criteria. It has the potential to increase the number of discharges, particularly at weekends when fewer doctors are available to make decisions. Nurse-led discharge can improve the timeliness and quality of discharge, by improving the co-ordination of services and making more efficient use of beds.

“Delivering for Health” outlines that discharge planning should commence at the earliest possible stage of the patient journey. Furthermore the level of post-operative support required should be agreed with the patient, in consultation with primary care and local authority colleagues. A typical patient discharge pathway is shown in figure 1 below.

![Figure 1](image-url)
Chapter 6
Managing Length of Stay

Health systems across the UK have identified significant variation in the length of time that patients with similar clinical requirements stay in hospital. For example, a patient admitted on a Friday night may have a length of stay that is 25% longer than a patient admitted on a Tuesday.

Traditionally there has been a tendency to concentrate efforts on patients with a length of stay exceeding 28 days. However, evidence has shown that focusing on this cohort of patients yields a lesser system benefit compared to those “middling procedures”, i.e., the high volume same process groups of patients.

The management of Length of Stay is crucial in meeting expectations of patients, carers and a range of staff. It is essential that every effort is made to ensure that EDD targets are achieved as often as possible. NHS Boards should have effective management and monitoring systems in place to ensure that Length of Stay expectations are achieved. A range of management techniques are used to communicate and monitor length of stay. Some organisations use traffic light systems, whilst others use IT systems for monitoring purposes. The system used is not important, the effectiveness of the system is crucial.

The effective management of length of stay and the achievement of EDD has a direct effect on the efficiency of theatres, bed utilisation and care provided outside of the acute environment.
Chapter 7
Managing Follow-Ups

The Planned Care Improvement Programme advocates the redesign of the whole patient pathway. In order to do so effectively requires us to pay attention to the front end of the patient pathway, through effective referral facilitation and admission processes, the planned discharge processes, and crucially follow-up appointments whose impact is often overlooked.

To date common practice has been to invite patients for a follow-up “just in case”, this has to change to a process where there is no follow-up unless there is a specific reason, i.e. clinical need or at a patient’s request. This would reduce the number of unnecessary follow-ups and DNA’s, which in turn will free up clinical resources for initial consultations – thus supporting ever more demanding patient expectations about the quality of service provided by the NHS.

The first part of achieving this change is to create “one-stop shops” where all relevant tests are planned, scheduled and booked to occur in one visit. This requires the visit process to be properly designed to ensure that all the activities happen in sequence to allow health professionals to make the appropriate clinical decisions.

Secondly, follow-up appointments should take place in the right healthcare setting and be delivered by the appropriate healthcare professional. This means investing in alternatives to the traditional consultant-led, hospital-based appointment. It also means managing the variation that exists between consultants in the number of repeat follow-ups they undertake.

The Planned Care Improvement Programme recommends that NHS boards ensure outpatient pathways are utilised and form part of the wider clinical systems redesign. These pathways should include the following interventions that have been shown to be effective in optimising the use of scarce resources:

- Discharge of outpatients to either no follow-up, patient initiated follow-up or GP follow-up as alternatives to routine follow-up in hospital outpatient clinics;
- Use of GPs with special interests;
- Direct access for GPs to hospital based diagnostic tests and investigations or hospital treatments without the prior approval of a specialist in an outpatient clinic;
- Structured referral sheets which prompt GPs to conduct any necessary pre referral tests or treatments and educational support by specialists in creation of local referral guidelines;
- Transfer of medical care for common chronic conditions such as diabetes from secondary to primary care;
- Development of teams and team leaders that work across primary and secondary care to reduce the need for treatment within acute services;
- Provision of alternative routes of care that are coordinated by means of referral management services;
- Follow-ups facilitated by means of telephone calls, questionnaires, web based services and group visits as alternatives to traditional visits, where the patient does not need to be physically present.
Chapter 8

Bringing It All Together

Planned Care is complex and the design of systems that promote safe and effective flow of patients along their journey will only be achieved by adopting a whole systems view of a patient’s journey and the improvements required all along that pathway.

We have seen that healthcare organisations with a history of knowing how to lead improvements at a micro/project level (i.e. improving something specific within a department) and over time elements of our healthcare systems have improved dramatically. However, in order to make true breakthrough improvements we need to expand our knowledge and capability to redesign and optimise healthcare delivery systems.

To achieve this The Planned Care Improvement Programme advocates the adoption of Patient Pathway Management as an overarching strategy to improving patient FLOW. Patient Pathway Management should sequence all the relevant improvement and treatment methodologies in a synchronised approach to deliver improved healthcare processes and act as the integrator between disparate parts of the healthcare system to improve both clinical outcomes and patient satisfaction:

The simple changes illustrated in this document are three key building blocks for the continuous improvement of Planned Care; they are evidence based examples of what needs to happen to improve services. They can achieve benefits in isolation at project level, but they will deliver greater improvements if applied in the design of FLOW across the whole healthcare process and deliver:

- Safe processes with clear lines of accountability and full clinical engagement between primary and secondary care and other external care providers;
- Clearly identified key stages in the patient pathway with clinically validated and agreed solutions that focus on the whole patient pathway from GP referral to diagnosis, treatment options and follow-up;
- Redesigned processes that are straightforward and reliable, that minimises transfers between clinicians, and manage queues effectively directing patients speedily onwards to the correct clinician or investigative test by means of appropriate referral protocols and triaging;
- Processes with good information and good data, ensured by having high quality information on which to base decisions available at each step of the process. This includes referral guidelines, the necessary information to be provided to the secondary and social care providers, feedback to the referrers and a process to update pathway protocols in the light of new local circumstances or changes in best practice guidance.

As healthcare systems continue to evolve, the focus has to be on meeting our population’s needs by designing efficient pathways in which each component can be subject to accurate monitoring and continuous improvement. In order to successfully manage the processes that form today’s patient journeys requires a successful patient pathway management system, based upon the integration of a stratified identification of patient and clinician needs, full knowledge of capacity and demand, patient management systems and underpinning knowledge systems.

It is a complex task, but there is a growing body of successful examples of whole system redesign. The following sections present key action points for consideration when developing and carrying
out projects that seek to improve FLOW and incorporating the 3 simple changes identified in this document into healthcare systems.

To support that the Planned Care Improvement Programme will assist boards to share ideas and best practice. The Programme will facilitate visits and knowledge exchange with healthcare systems outside Scotland and will assist Health Boards as they both plan their service changes and then implement them.

**Improving Flow:**

**Project Leadership:**
- Clearly establish the improvement goals for the whole healthcare system and the key projects that will deliver the whole system improvement in patient FLOW;
- Establish a reporting and measurement system that will align measures and demonstrate system/process improvements;
- Identify clinical leads, project managers and improvement teams;
- Put aside dedicated project management time;
- Develop team capabilities in improvement tools and techniques;
- Develop a culture for improvement and teamwork;
- Identify process owners;
- Introduce programme management structures and information systems that monitor and sustain improvement activities.

**Project Definition and Implementation:**
- Map the information flows and responsibilities for patient care along the patient journey;
- Map the processes and existing patient flows across the whole patient pathway;
- Identify bottlenecks and causes of delay;
- Identify, control and eliminate system constraints;
- Measure and analyse elective and emergency demand by day of week and hour of day, specialty, etc;
- Match capacity and demand for services and schedule clinics appropriately to minimise delays;
- Use control charts to study variation in case lengths to allow for better clinic scheduling;
- Identify and link the value adding steps in each process where possible;
- Identify transitions between sequential processes and work towards a “pull system”.

**Support Processes and Systems:**
- Create a culture of FLOW management as opposed to WAITING LIST management;
- Introduce systems to measure patient pathways;
- Ensure that the right data is available to measure and control the system being improved;
- Identify datasets for patients being admitted and those not being admitted;
- Measure patients FLOW along their journey and NOT their WAITING TIME in a particular function;
• Ensure that new IT solutions are only implemented alongside routine use of improvement methodologies by all staff;
• Introduce enhanced management information systems that support ongoing monitoring and management of problem areas;
• Continued development of booking and support systems to support shifts in activity and management of patient flows;
• Put in place planning and communication systems across hospital to support discharge planning and scheduling as well as optimising of bed availability.

Applying High Impact Changes:

Admissions
• Reduce variation in elective admission patterns;
• Application of protocols to minimise sources of variation in the process;
• A clear understanding of current referral patterns for specialties and their associated waiting times and/or degrees of urgency. Boards should be able to measure the volume of patients to whom patient pathways apply and be able to analyse local variation from patient pathways, supported by CHI as the unique patient identifier.

Discharges
• Plan and schedule for discharge early on admission or even at pre-admission;
• Use predictive discharge methods to reduce variation and eliminate delays;
• Set planned dates for discharge on the day of admission or pre-admission using protocols for common conditions;
• Establish regular decision making ward rounds;
• Schedule discharges throughout the day;
• Use nurse led discharge and train up clinical nurse specialists;
• Clinical agreement on discharge and follow-up protocols;
• Introduction of non face-to-face follow-ups.

Follow-Up and Out-of-Hospital Provision
• Ensure a commitment that outpatient pathways in high volume specialties are adopted and are integrated into wider clinical systems redesign;
• A clear understanding of community-based services and the potential shift available from an acute environment and clear evidence of engagement with community health partnerships in the process of service redesign;
• Work with “out-of-hospital” services to predict transfers and work with providers to provide adequate capacity;
• Examine extended models of care with nurse practitioners visiting care homes, etc. to avoid re-admissions;
• Examine options to carry out diagnostic testing outwith the hospital;
• A commitment to decrease the requirement for return outpatient appointments in high volume specialties and to maximise follow up at, or close to home.
Length of Stay:

• Analyse all inpatient stays by length of stay, to identify where improvements in the discharge process will have the greatest impact;
• Identify seasonal patterns and demand for care and distribute workload accordingly;
• Plan for discharge early on admission;
• Use predictive discharge methods to reduce variation and delay;
• Involve patients and their families or carers in discharge planning;
• Involve social services early if required;
• Move towards seven day per week discharge;
• Ensure that average length of stay is the same regardless of day of admission;
• Minimise on the day cancellations for elective patients.
Chapter 9

References

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The Planned Care Improvement Programme

Patient Flow in Planned Care

Admission, Discharge, Length of Stay and Follow-Up