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56-day prescribing: barriers, facilitators and interventions for extending periods of treatment

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56-day prescribing: barriers, facilitators and interventions for extending periods of treatment

Main report

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Glossary

All Wales guidance for prescribing intervals ('the updated All Wales guidance')

National guidance published in 2022 by the All Wales Medicines Strategy Group (AWMSG), outlining recommendations for extending prescribing intervals for repeat prescriptions where clinically appropriate.

All Wales Medicines Strategy Group (AWMSG)

Expert body advising the Welsh Government on the use, management and prescribing of medicines. Supported by the All Wales Therapeutics and Toxicology Centre (AWTTC).

All Wales Therapeutics and Toxicology Centre (AWTTC)

NHS Wales centre providing expertise to support the safe, effective and efficient use of medicines. It provides research and advice on medicine safety, prescribing strategy and national prescribing indicators.

APEASE framework

Tool for assessing the suitability of interventions designed to change behaviour against six criteria: acceptability, practicability, effectiveness, affordability, side effects and equity.

ARIMA

Autoregressive integrated moving average

BMA Cymru Wales

British Medical Association Cymru Wales

CCPS

Clinical Community Pharmacy Service

CPC

Community Pharmacy Collaborative

CPCF

Community Pharmacy Contractual Framework

CPCL

Community Pharmacy Collaborative Lead

CPW

Community Pharmacy Wales

DHCW

Digital Health and Care Wales

Dispensing GP practices

GP practices authorised to dispense prescribed medicines directly to eligible patients, typically in rural communities with limited access to community pharmacy services. This report focuses on non-dispensing practices; dispensing practices are out of scope.

EPS

Electronic Prescription Service

GMC

General Medical Council

GMS

General Medical Services

GPCW

General Practitioners Committee Wales

Health board

Regional NHS organisation responsible for planning and delivering healthcare services in Wales. The seven health boards are:

- Aneurin Bevan University Health Board (Aneurin Bevan UHB)
- Betsi Cadwaladr University Health Board (Betsi Cadwaladr UHB)
- Cardiff and Vale University Health Board (Cardiff and Vale UHB)
- Cwm Taf Morgannwg University Health Board (Cwm Taf Morgannwg UHB)
- Hywel Dda University Health Board (Hywel Dda UHB)
- Powys Teaching Health Board (Powys tHB)
- Swansea Bay University Health Board (Swansea Bay UHB).

Integrated Model of Behaviour ('Integrated Model')

Framework used to explore barriers and facilitators to implementing policy and to support intervention development. It considers five elements: motivation, choice, execution, outcomes and 'the options space'.

More individual approach to prescribing (or extending prescribing intervals)

Most referred to in this report as extending prescribing intervals and also known as 'extending periods of treatment' or '56-day prescribing'. Actions that aim to introduce prescribing intervals better suited to patients' individual needs. This may include extending

intervals beyond 28 days where this is clinically appropriate, such as to 56 days (2 months) or 84 days (3 months).

NHS Wales

National Health Service Wales

NWSSP

NHS Wales Shared Services Partnership

Prescribing intervals (or dispensing intervals)

The number of days for which a repeat medication is supplied before it must be reordered, approved and dispensed again. ‘Prescribing intervals’ refers to the length of time authorised by the prescriber, while ‘dispensing intervals’ refers to the same period as experienced in practice when the pharmacy supplies the medication. In this report, the two terms describe the same interval length but from different points in the repeat-prescribing journey.

PCC

Primary Care Cluster

PCCL

Primary Care Cluster Lead

QAIF

Quality Assurance and Improvement Framework

RCGP

Royal College of General Practitioners

RPS

Royal Pharmaceutical Society

WAPSU

Welsh Analytical Prescribing Support Unit

WHC

Welsh Health Circular

WIMD

Welsh Index of Multiple Deprivation

WPhC

Welsh Pharmaceutical Committee

1. Introduction and background

This final report presents the findings of a study commissioned by the Welsh Government to understand behaviours associated with extending periods of treatment, also referred to as extending prescribing intervals or 56-day prescribing. It provides an analysis of the barriers and facilitators to implementing the policy, alongside an appraisal of potential interventions and recommendations to support behaviour change.

1.1. The policy context

In 2018, the Welsh Government published its long-term vision for health and social care, A Healthier Wales. The pharmacy professions' response, Pharmacy: Delivering a Healthier Wales, provided a consensus view for developing pharmacy services by 2030, highlighting opportunities to expand the clinical role of pharmacy professionals working within community pharmacy and strengthen collaboration across primary care.

In 2022, major reforms to the Welsh Community Pharmacy Contractual Framework (CPCF) were introduced in Presgripsiwn Newydd - A New Prescription. This agreement between the Welsh Government, NHS Wales and Community Pharmacy Wales (CPW) established a shared vision for how community pharmacy should be transformed to meet public needs. The agreement committed to expanding clinical service delivery, supporting workforce development, improving quality and safety and strengthening integration with primary care clusters. These reforms were supported by changes to CPCF funding to incentivise pharmacies that undertake activities aligned with NHS Wales priorities.

Recognising the importance of containing future growth in dispensing volumes, the contractual reform agreement between the Welsh Government and CPW committed to commission an independent review of dispensing volumes.

1.2. A more individual approach to prescribing intervals

The 2021 Review of Dispensing Volumes in Community Pharmacy, commissioned by the Welsh Government and undertaken by the University of South Wales, concluded that reducing the number of prescriptions dispensed could improve efficiency and release capacity to provide clinical services. One of its three priorities for action was reducing dispensing events in primary care, which could be achieved by dispensing medicines less frequently where clinically appropriate.

The review found that extending prescribing intervals could benefit community pharmacies, GP practices and patients and align Wales with other UK nations where intervals beyond 28-days have been introduced. Doing so was expected to:

- enhance the suitability of prescriptions by providing the flexibility for prescribers to tailor prescriptions to patients' individual need
- increase patient convenience by reducing time spent ordering, collecting or receiving prescriptions; this could also support a reduction in carbon emissions

- benefit GP practices by reducing the administrative workload involved in generating repeat prescriptions
- benefit community pharmacies by reducing the number of dispensing events and releasing capacity to provide clinical services under the new CPCF

The Welsh Government subsequently developed an action plan to implement the recommendations of the independent review. The All Wales Medicines Strategy Group (AWMSG) reviewed and updated its All Wales guidance for prescribing intervals (hereafter 'the updated All Wales guidance'), which had previously recommended 28-day intervals. The updated All Wales guidance recommended prescribers introduce longer intervals for patients where this is clinically appropriate, considering possible reactions, treatment stability, patient compliance and monitoring requirements. Implementation was expected to take place during annual medication or chronic disease reviews, allowing gradual transition over 12 months. Faster implementation was possible with collaboration across clusters, GP practices and community pharmacies. Prescribers were encouraged to involve patients in shared decision-making.

The updated All Wales guidance also advised prescribers to consider using repeat (batch) dispensing alongside extending prescribing intervals, enabling prescriptions to be authorised for up to 12 months and dispensed at appropriate intervals by community pharmacies. Special consideration was advised for patients prescribed controlled drugs, those who are vulnerable or cognitively impaired, care home residents, medicines dispensed in multicompartment compliance aids (MCAs) and when managing prescription requests in urgent primary care settings.

A Welsh Health Circular (WHC) issued in December 2022 introduced the guidance. It instructed health boards to notify General Practitioners (GPs) of the change and work with practices and community pharmacies to encourage the use of extended prescribing intervals. Health boards were encouraged to embed the policy within existing clinical effectiveness, quality and prescribing programmes.

CPW and the British Medical Association Cymru Wales (BMA Cymru Wales) issued additional guidance to community pharmacies and general practitioners to support implementation. Contractors could adopt the changes gradually through medication reviews over 12 months or implement them over a two-month period. GP practices and community pharmacies were encouraged to agree local processes and consistent messaging. Community Pharmacy Collaborative Leads (CPCLs) in each Primary Care Cluster (PCC) were expected to play a central liaison role, alongside health board medicines management teams and practice-based pharmacists.

To support the transition from April 2022, the CPCF introduced a Dispensing Compensation Payment for pharmacy contractors experiencing reduced prescription volume specifically related to the increased prescribing intervals, where the criteria for payment is met.

The All Wales guidance was introduced during rising patient demand and workforce pressures across primary care. Between January 2022 and January 2024, average prescribing intervals in Wales increased, with variation across GP practices and health

boards (see section 5.2). Changes among dispensing GP practices have been more limited than in non-dispensing practices, which may reflect different factors influencing prescribing decisions in those settings. The current study does not examine prescribing behaviour in dispensing GP practices.

1.3. About this research

The Welsh Government commissioned ICF and The Behaviouralist to undertake research to understand behaviours associated with extending prescribing intervals (also known as extending periods of treatment or 56-day prescribing). The aim was to understand the factors influencing implementation of the updated All Wales guidance and identify the most appropriate approaches to support behaviour change.

The project research questions are set out below:

- What are the behavioural barriers and facilitators to implementing and maintaining extended prescribing and dispensing intervals in Wales?
- What interventions are most likely to influence prescribers in adhering to extended prescribing and dispensing intervals in Wales?
- What interventions are most likely to influence the public in being receptive to the changes in prescribing practice?

1.4. About this report

The structure of the report is as follows:

- Chapter 2 introduces the behavioural approach underpinning the research and its application to prescribing intervals
- Chapter 3 describes the data collection and analysis activities, including sampling, recruitment, data collection, analysis, and limitations
- Chapter 4 maps the behavioural journey involved in repeat prescribing, outlining the prescription supply pathway and key adoption points
- Chapter 5 presents quantitative behavioural trends, including changes in prescribing intervals between 2022 and 2024 and factors influencing uptake
- Chapter 6 sets out the barriers and facilitators to implementing extended prescribing intervals, mapped against the Integrated Model of Behaviour
- Chapter 7 provides detailed case studies, illustrating how GP practices, community pharmacies and health boards have approached implementation
- Chapter 8 presents and appraises the intervention options, drawing on the APEASE workshop and refinement process
- Chapter 9 synthesises the findings and offers recommendations to support implementation, monitoring and evaluation of extended prescribing intervals

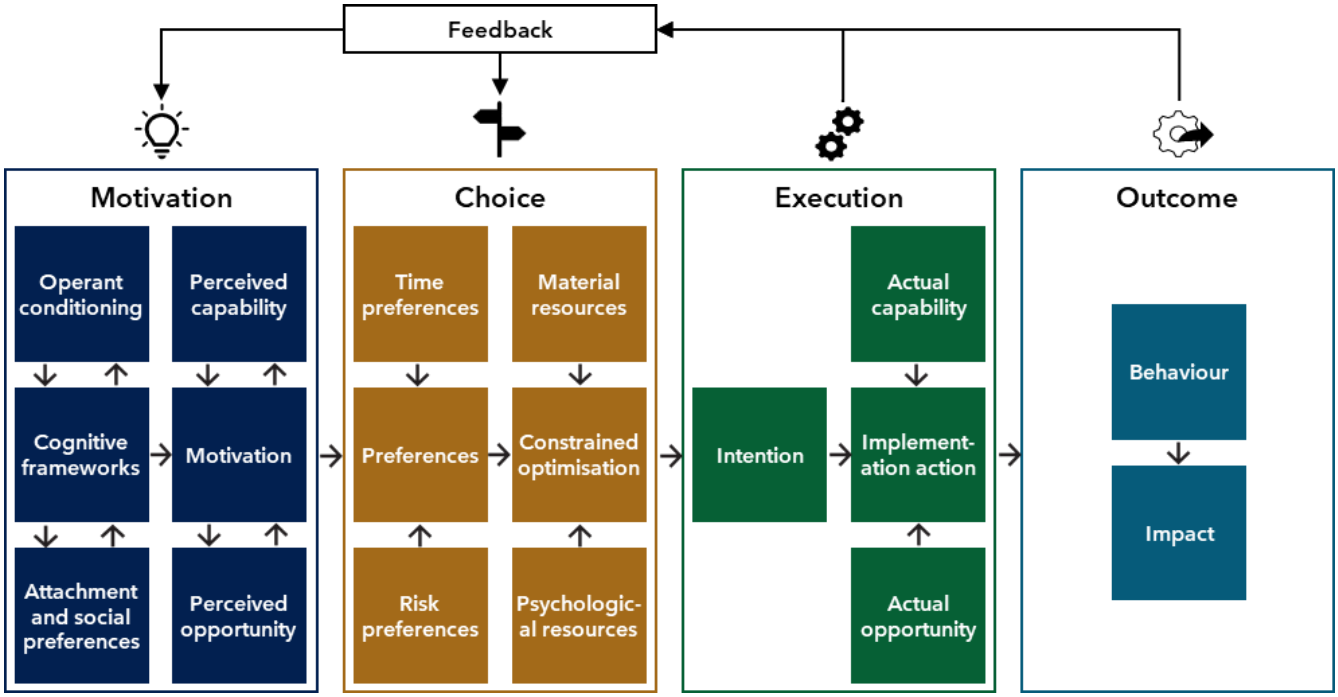
2. Approach

This research uses a behavioural approach to understand the barriers and facilitators to the behaviours required in extending prescribing intervals and to appraise potential solutions. This section introduces the behavioural model underpinning the research design and analysis.

2.1. Integrated Model of Behaviour

The research team used the Integrated Model of Behaviour (hereafter 'the Integrated Model') as a conceptual framework to guide the exploration of barriers and facilitators and to inform the development of proposed interventions. The Integrated Model, illustrated in Figure 1, nests and combines a wide range of approaches across the behavioural pathway, including COM-B, classical economics and behavioural economics. It also incorporates several elements not typically captured in other frameworks.

Figure 1: The Integrated Model of Behaviour



Description of Figure 1: A flow chart showing the four elements of the Integrated Model: motivation, choice, execution and outcome. Each coloured column shows how behaviour is shaped and how feedback loops operate. Motivation includes operant conditioning, cognitive frameworks, attachment and social preferences, perceived capability, perceived opportunity and motivation. This leads to choice, which includes time and risk preferences, material and psychological resources, preferences and constrained optimisation. Execution consists of actual capability, intention, implementation action and actual opportunity. Outcome shows behaviour and impact, with arrows indicating feedback loops that influence earlier stages.

Source: Barnard, M (2023) Integrated Model of Behaviour.

The model comprises four core elements, motivation, choice, execution and outcomes, each of which is discussed below.

Motivation

Motivation is central to understanding behaviour and is often essential to behaviour change. Motivations to carry out a behaviour can stem from deep-seated drives, such as the need for safety and security, or from relational and higher-level needs, such as love and belonging, self-esteem and 'self-actualisation', as described in Maslow's hierarchy of needs.

Experience and learning also shape motivation. Rewards and punishments can form habits and fixed behavioural patterns that are difficult to change. Linked webs of ideas, or 'cognitive schema', encompass attitudes, values, 'behavioural scripts' and assumptions about causes and effects, all of which impact motivation. While motivations are influential, they can be difficult to change, and interventions aimed at doing so can be resource intensive.

Choice

People may not perform a behaviour even when motivated to do so; this is often referred to as the 'intention-action gap'. Sometimes the gap exists because someone is conflicted about the behaviour itself; more often, it's because people are motivated to do many things but have limited time, effort and money. Classical economics models this using 'constrained optimisation', a framework for identifying the best set of choices given resource constraints. Effective behaviour change interventions therefore need to consider perceived costs and benefits across all available options, not just the behaviour of interest.

Execution

Sometimes implementing a choice is straightforward, but at other times it is a more involved process influenced by someone's opportunity and capability. Opportunity encompasses all the things which lie outside an individual's control and affect whether they can act. They may want a cup of tea, but without a kettle, it's difficult to make one. Capability refers to an individual's capacity to act. For someone with mobility issues, filling and switching on a kettle may be a significant challenge. Execution may be the unglamorous end of behaviour change but ignoring it can undermine otherwise well-designed interventions.

Outcome and feedback

Behaviour produces two forms of outcomes: the experience of performing the behaviour, how it feels physically and emotionally, and its impact; behaviour is often goal-directed, meaning the result matters more than the act itself. Both feed back into future motivation and decisions. If the experience is unpleasant or the desired outcome is not achieved, a person may decide it's not worth it. If actual costs outweigh benefits, individuals may prefer another option, given limited resources.

The 'options space'

A final element of the model, not shown in Figure 1, is the 'options space' representing all possible behaviours in a given context. It can be divided into an 'objective' options space (all possible actions) and a 'perceived' options space (the subset an individual considers). Differences in perception mean individuals may not recognise or contemplate certain

behavioural options even when they objectively exist. For example, if someone has an argument at work, the objective options space may be similar across individuals (responses such as discussing the issue, complaining to human resources, resigning, or verbally or physically retaliating). However, their perceived options spaces may differ. One person might consider resigning but decide against it, meaning it's part of their perceived options space but not chosen. Another might not even think of resigning; although it's in the objective space, it is absent from their perceived space and never considered.

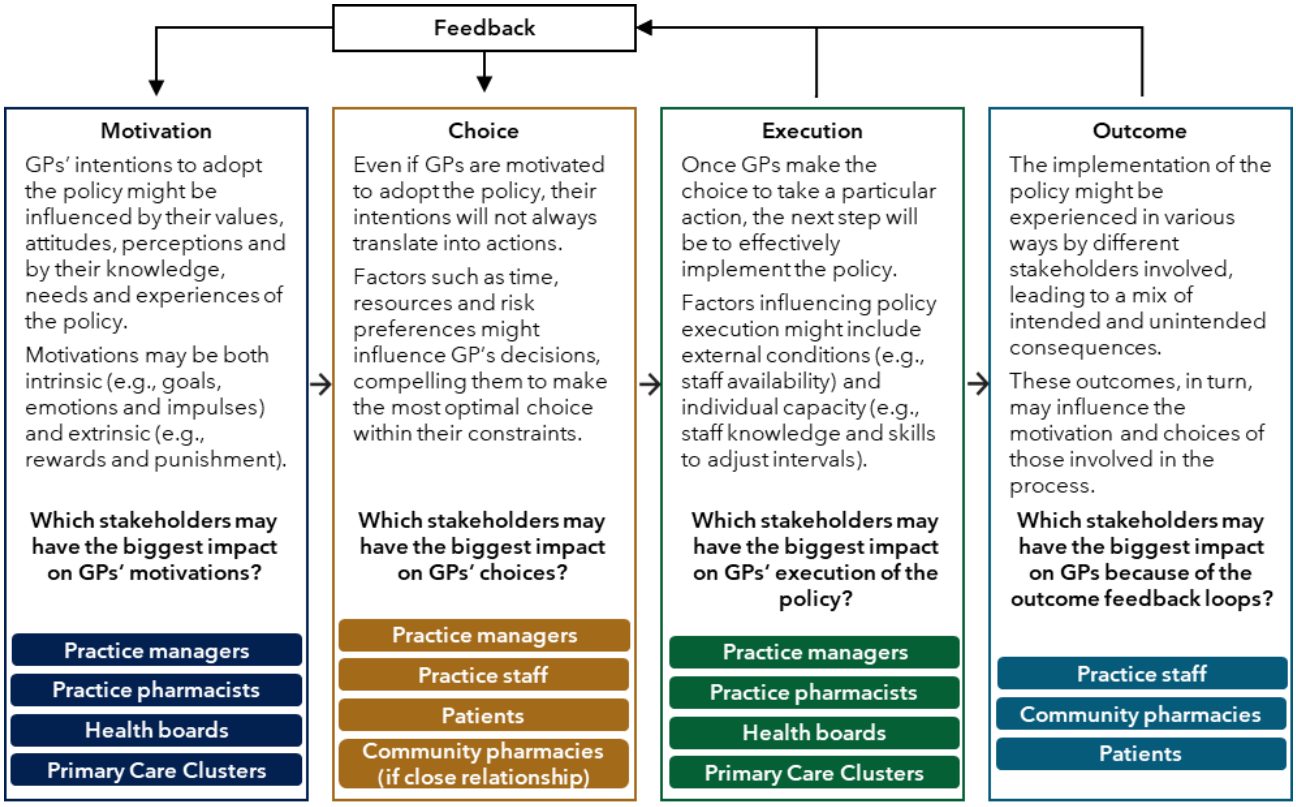
The benefit of using the Integrated Model in this research is that it builds on the strengths of existing approaches, such as Public Health Wales' (PHW) publication 'Improving health and wellbeing: A guide to using behavioural science in policy and practice', which uses the COM-B framework. COM-B is incorporated within the Integrated Model but does not formally include the role of choice, which is one of the elements the Integrated Model adds. In contrast, classical and behavioural economics highlight choice and choice architecture but often overlook underlying motivations. The Integrated Model integrates these perspectives while also distinguishing between behaviour and its impact and describing how both feed back into future motivation and decisions. This provides a comprehensive framework for identifying barriers across the behavioural pathway.

2.2. Applying the Integrated Model to extending periods of treatment

The research team applied the Integrated Model to the context of extending periods of treatment, identifying prescribers (most commonly GPs) as the primary decision-makers. This reflects the fact that prescribers retain ultimate responsibility for adjusting prescribing intervals, making them central to any behavioural change required for policy adoption.

Figure 2 presents a high-level overview of the factors that may shape GPs' behaviour, mapped onto the four core elements of the Integrated Model. It also highlights which stakeholders might influence GP decisions at each stage.

Figure 2: Applying the Integrated Model to extending periods of treatment – GPs' decision-making pathway



Description of Figure 2: A four-column diagram showing GP behaviour across the Integrated Model elements: motivation, choice, execution and outcome. Each column lists the factors influencing GPs and the stakeholders with the biggest impact. Motivation shows influences on intentions; Choice highlights constraints shaping decisions; Execution outlines conditions and capacity affecting implementation; and outcome shows consequences feeding back into earlier stages. Practice managers impact motivation, choice and execution, while practice pharmacists influence motivation and execution; health boards and primary care clusters impact motivation; community pharmacists and practice staff impact choice, execution and outcome, while patients impact choice and outcome.

3. Methods

The mixed-methods study ran across three phases, each serving a distinct purpose in addressing the behavioural challenge of extending prescribing intervals. The Define phase focused on scoping and framing the behavioural problem. The Diagnose phase concentrated on identifying the underlying behavioural barriers and facilitators using primary data. The Solve phase designed and appraised intervention ideas to support adoption of extended prescribing intervals.

This chapter outlines the methods used to collect and analyse data, including the approach taken to sampling, recruitment, data collection and analysis. It also evaluates the quality of data and their challenges and limitations. Figure 3 presents the data collection and analysis activities.

Figure 3: Structure of data collection and analysis

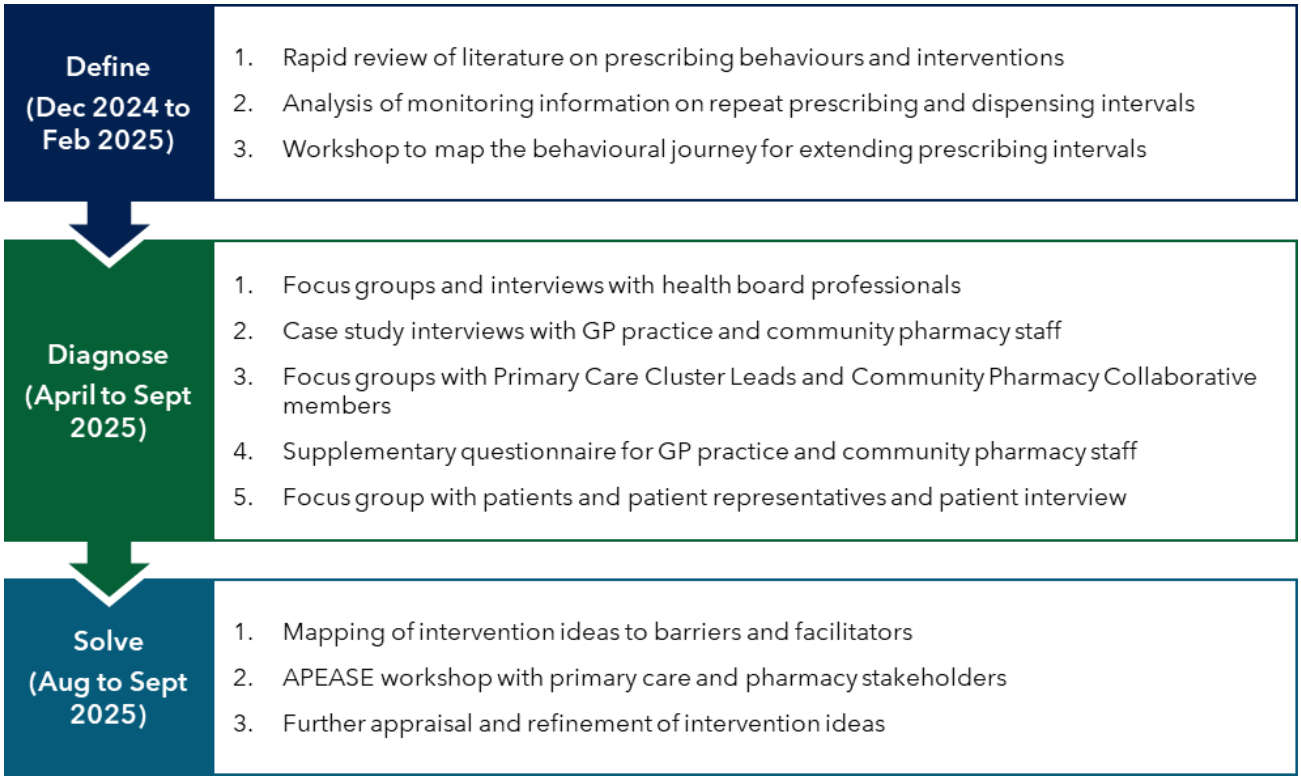


Figure 3: Flow chart with three coloured sections titled Define, Diagnose and Solve, connected by downward arrows. Define (December 2024 to February 2025) includes rapid review of prescribing behaviours and interventions, analysis of monitoring data on repeat prescribing and dispensing intervals and a workshop mapping the behavioural journey for extending prescribing intervals. Diagnose (April to September 2025) lists focus groups and interviews with health board professionals, case study interviews with GP practices and community pharmacy staff, focus groups with Primary Care Cluster Leads and Community Pharmacy Collaborative members, a supplementary questionnaire for GP practices and pharmacies and patient focus groups and interviews. Solve (August to September 2025) includes mapping intervention ideas, an APEASE workshop with primary care and pharmacy stakeholders and further appraisal and refinement.

3.1. Define phase

From December 2024 to February 2025, the team clarified the behavioural challenge, reviewed current evidence on extending prescribing intervals, analysed monitoring data and mapped the repeat prescription journey to identify critical behavioural moments to explore in following stages.

3.1.1. Rapid review of literature

A targeted review of academic and grey literature captured evidence on barriers and facilitators and the effectiveness of interventions to influence prescribing behaviours (see Annex E). Searches in Google Scholar and PROSPERO prioritised recent sources relevant to Wales and the UK. Abstracts were screened against inclusion criteria for peer-reviewed academic articles published after 2010. Selected literature was quality-appraised and informed analysis and intervention development.

3.1.2. Analysis of monitoring information

Quantitative data on prescriptions issued and dispensed from 2022 to 2024 was analysed to identify behavioural trends across health boards, contractors and patient groups. The purpose was to understand the relationship between prescribing intervals and key geographic, demographic and institutional characteristics.

Data source

The research team obtained data from NHS Wales Shared Services Partnership (NWSSP) on GP prescribing intervals for an agreed basket of medicines used to report the progress for increasing the interval of prescribing durations for prescriptions issued within primary care in Wales between 2022 and 2024. Publicly available data on practice characteristics, patient population and deprivation levels were gathered from the NWSSP website and Stats Wales and merged in R. Data on dispensing intervals in community pharmacies was also obtained from NWSSP for the same basket of drugs. A full list of data sources is provided in Annex A.

Data were managed and analysed in three groups:

- all GP practices, to compare practice characteristics and patient populations across health boards
- non-dispensing GP practices, to examine differences in prescribing intervals
- all community pharmacies, to compare characteristics and differences in dispensing intervals

Analysis

Data were processed in R using a mixture of descriptive statistics and advanced statistical methods. First, descriptive statistics explored how GP practices differ across health boards. Measures included the mean, median and mode (central tendency), range (variability) and frequency. The aim was to summarise data clearly and highlight variation in:

- practice characteristics (number, size and rurality)
- patient characteristics (age and deprivation)
- dispensing status (the range of practices that dispense medication to patients who live more than a mile away from their nearest pharmacy)
- prescribing intervals (average number of days of items prescribed, for non-dispensing practices)

Next, 'mixed effects' modelling was used to understand the relationship between prescribing intervals, practice characteristics such as rurality, patient age and deprivation, and the proportion of an agreed basket of medicines used to report the progress for increasing the interval of prescribing durations. Mixed effects modelling is a form of regression analysis that assesses how characteristics influence an outcome and how those influences differ between groups. 'Fixed effects' modelling estimated the overall influence of characteristics across all practices, assuming these effects were the same for all practices. 'Random effects' modelling considered the influence of characteristics on prescribing intervals for practices in each health board. Together, these models provided insight into both general trends and local differences, leading to a clearer understanding of the factors that shape prescribing behaviour.

To analyse changes over time in prescribing intervals, the research team used autoregressive integrated moving average (ARIMA) modelling of monthly data between 2022 and 2024, assessing how average prescribing intervals changed following introduction of the updated All Wales guidance.

Finally, dispensing intervals were examined for community pharmacies. The analysis compared intervals across health boards and pharmacy types:

- large national chains, including well-established pharmacy chains operating nationwide
- regional chains, including medium-sized contractors operating in multiple locations within one or more regions of Wales
- independent pharmacies, including locally owned and operated single-location pharmacies or those with very limited reach

The analysis also examined changes in dispensing intervals between 2022 to 2024 and differences between community pharmacies and GP practices.

3.1.3. Behavioural journey mapping workshop

A workshop was held to map the process for generating and dispensing repeat prescriptions. Its purpose was to understand the role of individuals involved and capture the behavioural decision points relating to extending prescribing intervals (see section 5.1).

Sampling and recruitment

A small, purposively selected group of stakeholders in roles across general practice and community pharmacy were invited. Welsh Government networks were used to facilitate access to relevant contacts, though final selection was made independently by the research

team. The sample aimed to reflect diverse roles and responsibilities in prescribing and dispensing.

Stakeholders involved at different points in the prescribing and dispensing process were invited to the workshop. GP practice participants included a GP, practice manager, practice pharmacist and prescription clerk. CPW representatives contributed insights from experience of community pharmacists and community pharmacy technicians. A representative from Digital Health and Care Wales (DHCW) provided expertise on digital systems and technology supporting prescribing and dispensing. A Welsh Government pharmacy advisor contributed in their capacity as a pharmacy professional.

Data collection

The two-hour workshop was facilitated online using Microsoft Teams. Collaboration software Miro was used as a 'digital whiteboard', allowing participants to add insights using virtual sticky notes. Participants commented on a pre-prepared flow chart of the repeat prescriptions process, noting behaviours, decision factors and core barriers and facilitators.

Analysis

The transcript was reviewed and analysed thematically in MAXQDA 2024 using an inductive approach. Themes were derived from coded data and refined iteratively.

3.2. Diagnose phase

The Diagnose phase sought to develop a detailed understanding of the barriers and facilitators to the behaviours required in implementing extended prescribing intervals and achieving the intended outcomes. Between April and September 2025, the research team conducted fieldwork with stakeholders involved in prescribing, dispensing and supporting the policy's implementation.

3.2.1. Focus groups and interviews with health board and DHCW professionals

Focus groups and interviews were conducted with senior leaders from all seven health boards, covering primary care, community pharmacy and medicines management. As commissioners of GMS and CPCF services, health boards play a central role in supporting and coordinating GP practices and community pharmacies. They also foster collaboration through Primary Care Clusters (PCCs).

A focus group was also held with three DHCW representatives to understand how developments in data, the Electronic Prescription Service (EPS) and health care software were influencing the barriers and facilitators to the behaviours required in implementing extended prescribing intervals.

Sampling and recruitment

Representatives across a range and diversity of roles were invited via the Welsh Pharmaceutical Committee (WPhC). Invitees included medical directors, senior leaders in primary care and pharmacy, medicines management and finance leads, primary care

pharmacists, pharmacy technicians and cluster pharmacists. DHCW participants were identified with Welsh Government support.

Data collection

Three online focus groups were conducted in April and May 2025 with 16 participants from six health boards. The sessions explored how health boards oversee prescribing and dispensing and their experience of implementing extended prescribing intervals. The discussions covered:

- how health boards oversee prescribing and dispensing
- experiences of implementing the guidance
- mechanisms for encouraging contractors to adopt it
- barriers and facilitators at health board, cluster and contractor level

Two focus groups included participants from a mix of health boards and one involved staff from a single health board to accommodate scheduling constraints. An individual interview was also held with a colleague from the remaining health board not represented in the first two groups and with an additional health board colleague who could not attend the focus groups.

Three DHCW professionals took part in a focus group discussion over Microsoft Teams. The discussion focused on exploring current use of digital tools in prescribing and dispensing and their experience of the barriers and facilitators to the behaviours required in implementing extended prescribing intervals using these tools.

Analysis

The transcripts of the focus groups were reviewed and analysed thematically in an analysis framework using Microsoft Excel. Themes were identified following a mixed inductive and deductive approach, in which themes were derived against the sections of the topic guide (see Annex F).

3.2.2. Case study interviews with GP practice staff

In-depth semi-structured interviews were conducted with 28 staff members across 14 GP practices in five health boards. The purpose was to explore how guidance on extended prescribing intervals has been adopted and experienced across different settings.

Sampling frame

The research used data on non-dispensing GP practices compiled during the Define phase from NWSSP, the NHS Wales website and Stats Wales (see section 3.1.2). This included contact details, rurality, workforce composition, patient demographics, prescribing volumes and average prescribing intervals. The breadth and quality of data allowed for a detailed sampling approach but did not capture additional factors such as EPS rollout.

Sampling approach

A purposive sampling strategy was used. GP practices were categorised based on size, rurality, patient age and deprivation levels and changes in prescribing intervals between 2022 and 2024.

Shortlists of GP practices were identified in each health board. Practices in each shortlist were selected to represent a range of prescribing intervals, including those that were relatively high, low and typical within their health boards. Within these broad categories, a judgment-based assessment was used to prioritise practices that appeared closest to these positions. This flexible approach allowed for adjustments during recruitment, recognising that constraints on participation might limit the inclusion of practices most closely aligned with the initial criteria. Table 1 details the achieved sample against the sampling criteria.

Table 1: GP practices interviewed, by health board and relative prescribing intervals

Health Board	**Average prescribing interval relative to health board mean**	**Number participants interviewed**
Health Board A	Lower	1
	Average	1
	Average	3
	Higher	2
	Higher	1
Health Board B	Average	3
	Average	2
	Average	4
	Higher	1
Health Board C	Average	2
	Higher	1
Health Board D	Lower	3
Health Board E	Lower	2
	Lower	2

Recruitment

The research team encountered substantial recruitment challenges. Initial outreach was incremental, beginning with practices that most closely matched the target criteria and expanding as needed. GP practices were contacted through publicly available email addresses, but limited availability hindered direct contact. Strategic leads within health boards provided additional contacts and helped amplify recruitment efforts. Practices were offered remuneration of £125 per half-day of participation.

Despite these efforts, recruitment remained difficult. Reasons noted by GP practices included limited capacity and low awareness of the guidance. To support engagement:

- the recruitment pool was widened to include all non-dispensing practices
- NWSSP issued a direct email invitation to all GP practices
- a Microsoft Bookings link was provided to facilitate scheduling at convenient times

Data collection

Interviews were conducted, recorded and transcribed using Microsoft Teams. Participants received bilingual privacy notices outlining the purpose of the interview and how their contributions would be recorded, stored and anonymised for analysis. A topic guide was used to support data collection and focused on how GP practices have adopted and experienced the guidance to extend prescribing intervals (see Annex F). The guide explored participants' roles, practice characteristics and typical prescribing processes, before examining:

- motivations to extend prescribing intervals, including awareness, understanding and response to the guidance and perceptions of benefits and challenges
- choices to extend prescribing intervals, including assessment of time, resources and capabilities available in the practice, and approaches considered
- execution of approaches to adopt the guidance, including actions taken, barriers and facilitators encountered and aspects that worked well or less well
- outcomes, including progress made, impacts on the practice and patient care and unintended consequences
- suggestions for further actions to support implementation

Analysis

Interview transcripts and notes were analysed thematically in Microsoft Excel using a hybrid inductive-deductive approach (Barnard, 2012). Themes were identified inductively to stay close to participants' perspectives and experiences. As analysis progressed, elements of the Integrated Model (motivation, choice, execution and outcomes) were used deductively to categorise barriers and facilitators which were reviewed collectively by the research team.

3.2.3. Case study interviews with community pharmacies

In-depth semi-structured interviews were conducted with 11 community pharmacies across six of the seven health boards. The purpose was to explore their involvement in adopting

the guidance and experiences of dispensing medications under extended prescribing intervals. These interviews complemented GP practice engagements to build a comprehensive picture of barriers and facilitators across the repeat prescription journey.

Sampling frame

The research team used data on community pharmacies compiled during the Define phase from NWSSP, the NHS Wales website and Stats Wales. This included contact details, average dispensing intervals and ownership type (whether independent, regional chain or national chain), though some pharmacy names were outdated due to management changes.

Sampling approach

Pharmacies were purposively selected to reflect a range and diversity of average dispensing intervals. Shortlists were created for each health board, with a target of engaging two community pharmacies in four health boards and one community pharmacy in three health boards. The community pharmacies in the shortlist were ordered based on the extent to which they met the criteria, to provide a basis for contacting participants in rounds. **Table 2** details the achieved sample against the sampling criteria.

Table 2: Community pharmacies interviewed, by health board

Health Board	**Number of community pharmacies engaged**	**Number participants interviewed**
Health Board A	2	2
Health Board B	2	3
Health Board C	2	2
Health Board D	1	1
Health Board E	3	3
Health Board F	1	1

Recruitment

Recruitment challenges mirrored those for GP practices. As customer-facing businesses, some community pharmacies reported limited capacity to allocate structured times for taking part in interviews. Community pharmacies were contacted through email and some were contacted by phone. Strategic leads and GP practices taking part in fieldwork facilitated introductions.

To address low responses from the community pharmacies that had been contacted, NWSSP issued a direct email invitation to all community pharmacies. As with GP practices,

renumeration was offered to community pharmacies at £125 per half-day. These solutions facilitated greater engagement from community pharmacies.

Data collection

Interviews were conducted, recorded and transcribed using Microsoft Teams. When participants preferred to speak over telephone, researchers took detailed notes. The topic guide explored how community pharmacies were involved in and experienced changes to prescribing intervals (see Annex F). The guide explored participants' roles, pharmacy characteristics and typical processes for ordering, preparing and dispensing medications.

Like those conducted with GP practice staff, the interviews explored participants' engagement with the guidance and their experience of the changes, aligned with elements of the Integrated Model. The behavioural journey mapping exercise recognised that while community pharmacies are not primary decision-makers in extending prescribing intervals, their critical role in the dispensing process can influence and support change. Accordingly, the interviews explored how community pharmacies collaborated with GP practices to introduce extended prescribing intervals, their awareness and understanding of the guidance and perspectives on the impacts of changes.

Analysis

Using the inductive-deductive approach, the research team identified barriers and facilitators for community pharmacists to influence and support efforts to extend prescribing intervals inductively. These were coded against elements of the Integrated Model, stages in the repeat prescription journey and underlying behavioural mechanisms.

3.2.4. Focus groups with Primary Care Cluster Leads (PCCLs) and Community Pharmacy Collaborative (CPC) members

Focus group with PCCLs

The research team conducted a brief focus group with PCCLs during an All Wales Cluster Leads Group (AWCLG) meeting in August 2025. PCCLs coordinate PCC activity, supporting integration and collaboration among providers in cluster areas. Although limited to 20-minutes due to agenda constraints, the session enabled additional engagement on the behaviours needed to implement extended prescribing intervals within GP practices and community pharmacies.

Discussion notes were analysed thematically using the Integrated Model. A supplementary questionnaire was then shared for further reflection and dissemination to GP practices and community pharmacies.

Focus group with CPC members

A second focus group was conducted with community pharmacy staff during a CPC meeting. CPC meetings gather community pharmacists and pharmacy technicians in a PCC area to support collaboration, coordinate services and discuss shared challenges and policy implementation.

The research team invited CPCLs to participate, with assistance from CPW and the Welsh Government. Two CPCLs extended invitations to upcoming meetings, though timelines allowed attendance at only one of these meetings. A 45-minute session was held online and attended by 10 community pharmacy staff members. The discussion explored how community pharmacies had adopted and experienced extended prescribing intervals, identifying areas of consensus and variation. The session followed an abridged version of the pharmacy interview topic guide, covering awareness and understanding of the guidance, barriers and facilitators, collaboration with GP practices and suggestions for improvement. Detailed notes were analysed thematically in line with the Integrated Model.

3.2.5. Supplementary questionnaire for GP practices and community pharmacies

A short questionnaire was developed to gather broader perspectives from community pharmacies and GP practices across Wales. The purpose was to complement the qualitative findings and strengthen the evidence base.

Sampling approach

Technically the survey aimed to be an open census rather than a sample, inviting responses from all community pharmacies and non-dispensing GP practices listed in the NWSSP database. Questions were a mix of closed and open questions, offering an opportunity for contribution from those unable to participate in interviews and focus groups. Open-ended responses were included in the qualitative analysis. Quantitative results, included in Annex C for completeness, were not incorporated into the main report; as an incomplete census, it is not possible to be confident how results relate to the parent population.

Recruitment

NWSSP distributed invitations to all GP practices and community pharmacies, with a link to the survey platform. Respondents were staff from non-dispensing GP practices and community pharmacies with involvement in repeat prescribing. Responses from dispensing GP practices were screened out as they were not in scope of the current study.

Data collection

The questionnaire was hosted on the secure survey platform Forsta Plus. Questions explored four key areas:

- current prescribing and dispensing practices
- perceived benefits and risks of adopting the guidance
- barriers and facilitators to the behaviours required in implementing extended prescribing intervals
- views on potential interventions to support action to extend prescribing intervals

The questionnaire was open for two weeks in September 2025 and received 34 complete responses: 20 (59%) from non-dispensing GP practices and 14 (41%) from community pharmacies. Responses were obtained from GP practices in all health boards and

community pharmacies in all but one. This provided coverage of health board areas not represented in interviews, enabling triangulation and strengthening the evidence gathered.

Analysis

Due to the low response rate to the questionnaire, quantitative responses cannot be generalised. Analysis of quantitative questions are included in Annex C for reference only. Open-ended responses were analysed thematically and coding aligned to the Integrated Model.

3.2.6. Patient engagement

Patient perspectives were gathered through two activities: a focus group and an individual interview.

A 20-minute focus group took place during a June 2025 session of the AWTTC Patient and Public Interest Group. This public group meets periodically, bringing together engaged patients, representatives and organisations interested in medicines-related issues. Sessions typically include presentations on medicines management by AWTTC and partner organisations, followed by opportunities for discussion. The discussion was guided by targeted questions based on a patient topic guide aligned with the Integrated Model, reflecting limited time in the agenda.

GP practices participating in case study interviews were also asked whether they had active patient liaison groups. Practices with such groups disseminated information inviting patients to participate in an interview. One patient responded and took part in an individual telephone interview, which followed a topic guide tailored for patients and aligned with the Integrated Model.

Analysis followed the same approach as for GP practices and community pharmacies. Barriers and facilitators to patient involvement in extending prescribing intervals were identified inductively, then coded to the Integrated Model, the relevant stage in the repeat prescription journey and associated behavioural mechanisms.

3.3. Solve phase

The Solve phase focused on developing and appraising intervention ideas to support efforts to extend prescribing intervals. In August and September 2025, the research team identified and appraised intervention ideas that responded to barriers and facilitators identified in the desk review and primary data collection. An internal intervention design workshop generated an initial shortlist of intervention ideas, which were subsequently discussed with stakeholders during an external APEASE workshop.

3.3.1. Mapping of intervention ideas to barriers and facilitators

The research team reviewed intervention ideas shared by participants during data collection and identified through analysis in earlier phases, aiming to identify options that directly addressed the barriers and facilitators identified and to assess their functions and

characteristics. A rapid academic literature review on interventions using Google Scholar and PROSPERO informed this process.

An internal intervention design workshop generated a set of initial ideas, serving as a springboard for further ideation of interventions. These were intentionally broad, avoiding detailed assumptions about feasibility at this stage. The workshop began with a collaborative review of key findings mapped to the Integrated Model's four stages: motivation, choice, execution, and outcome. Participants then brainstormed a set of preliminary solutions, intentionally keeping ideas broad before assessing feasibility.

A second activity used the Behaviour Change Wheel (BCW) (Michie, van Stralen & West, 2014). Although the BCW and COM-B model underpin the Integrated Model, the framework was used explicitly at this stage to provide a systematic method for characterising interventions and aligning them with the behavioural pathway. Ideas from the initial brainstorm were mapped to BCW intervention functions. As part of this process, participants were provided with rapid-review findings organised by intervention function to support refinement. Most potential solutions aligned with three intervention functions: education, enablement, and environmental restructuring. Appendix E summarises the relevant literature for this function.

The refined ideas were then incorporated into a systematic interventions mapping framework in Microsoft Excel, linking behavioural elements, identified barriers and facilitators, rationales and intended outcomes. With interventions positioned within the behavioural pathway, the team undertook a final prioritisation exercise. Through open discussion, the team selected the ideas that most effectively addressed the challenges identified during qualitative research and assessed their alignment with behavioural components. These refined ideas were then taken forward to the APEASE workshop for appraisal.

3.3.2. APEASE workshop with primary care and pharmacy stakeholders

A virtual APEASE workshop was held on 15 September 2025 to appraise the shortlisted interventions. The APEASE framework provides a structured approach for assessing the suitability of behaviour change interventions against six criteria: Acceptability, Practicability, Effectiveness, Affordability, Side-effects/Safety and Equity. Rooted in behavioural science, APEASE is widely used by policymakers in government, national health services and local authorities to evaluate interventions aimed at influencing behaviours. It can be applied at multiple stages of intervention development: when considering policy options, appraising planned interventions or formally evaluating live interventions.

Sampling and recruitment

Participants were purposively sampled to ensure a range of expertise and perspectives across the repeat prescription pathway. Recruitment was supported by the Welsh Government and reviewed by the research team, targeting:

- community pharmacy (including health board leads, collaborative representatives, and practising pharmacists)

- general practice (GPs, practice pharmacists, practice managers, and cluster leads)
- policy and medicines management (AWTTC, NHS Wales, Royal Pharmaceutical Society)

Senior health board leads, clinicians, pharmacy leaders and stakeholder bodies attended, enabling consideration of operational and strategic implications of each intervention idea.

Data collection

The two-hour workshop was hosted on Microsoft Teams, with collaborative activities conducted in Miro. It included:

- introductions and context setting from the research team and Welsh Government policy leads
- a presentation and discussion of shortlisted interventions, each mapped to barriers and facilitators identified in the research
- individual and collective appraisal using the APEASE criteria
- plenary discussion and close, summarising findings and next steps

Participants were introduced to Miro and invited to individually rate each intervention on the Miro board against each APEASE criterion (from zero to ten). Space was provided for supporting arguments or evidence. These ratings informed the subsequent group discussion and supported consensus-building. Some participants experienced technical challenges using Miro, prompting the team to shift to an open group discussion format. This ensured all participants could contribute their reasoning and feedback.

Two types of data were collected during the workshop: participants' ratings of the APEASE criteria, registered in the APEASE grid, and transcript data from the open group discussion. First, average ratings were estimated to indicate whether any given intervention or intervention component stood out as particularly strong or weak. The degree of variation in the ratings was estimated through examining minimum and maximum values and standard deviation, which helped the research team assess the level of agreement between participants. Results from the analysis can be found in Annex D. Second, the research team reviewed the workshop transcript, extracting the most relevant information.

3.4. Limitations

While the research yielded valuable insights, several limitations should be acknowledged to provide a balanced understanding of its scope and applicability.

Quantitative data analysis

The quantitative analysis relied on data routinely collected from NWSSP and Stats Wales. While comprehensive and detailed, some community pharmacy names and contact details were outdated due to ownership changes; some classifications of business type may not reflect the current picture. The datasets did not include all factors that may influence

prescribing intervals, including moving to EPS, which has been rolled out to some GP practices. Data provided by the Welsh Government noted when data collection began in October 2024, EPS was actively used in 1.38% of practices, rising to 19.63% in September 2025. Other gaps related to the migration to different prescribing software, batch prescribing and variations in local policies and funding mechanisms for prescribing and dispensing.

Behavioural journey mapping workshop sampling and recruitment

Due to the recruitment methods used, GP practice staff who participated worked within the same health board area, while the two health board representatives were from a different health board. As a result, the workshop did not capture differences in the experiences of GP practices and health board staff across other health board areas. This limitation was judged to have minimal impact on the mapping exercise, as the focus was on overall processes and options for extending prescribing intervals.

Fieldwork sampling and recruitment

Recruitment challenges limited the diversity of participants in interviews and focus groups with GP practices, community pharmacies and patients. Initial recruitment of GP practices and community pharmacies relied on publicly available contact details, which were incomplete for some contractors. Although strategic leads within health boards helped encourage contact, participation may have been influenced by internal networks. NWSSP support, financial renumeration and flexible scheduling via Microsoft Bookings were used to increase participation. However, practices and community pharmacies with lower awareness or capacity to participate were likely under-represented.

Although NWSSP's direct email invitation and the offer of remuneration improved engagement among practices and community pharmacies, some health board areas were not represented in interviews, though responses to the supplementary questionnaire partially mitigated this (see section 3.2.5).

The sampling frame did not account for differences in practice structures, processes, capabilities, and IT systems that may influence behaviours to implement extended prescribing intervals. Although GP practices were interviewed across a range of health boards, areas and prescribing intervals, interviewed practices differed widely in adoption and progress.

Behavioural journey mapping workshop sampling and recruitment

Focus groups with health board strategic leads covered all seven health boards. As noted in section 3.2.1, two focus groups included participants from a mix of health boards, enabling regional comparisons and shared reflections on implementing extended prescribing intervals, while one involved staff from a single health board to accommodate scheduling constraints. An individual interview was also held with a colleague from the remaining health board not represented in the first two groups and with an additional health board colleague that could not attend the focus groups. While these arrangements ensured perspectives

from all seven health boards were included, they limited cross-health board interaction for some participants. Such engagement could have added further depth and breadth to the perspectives captured.

Patient engagement

Patient engagement was more limited than anticipated, which reduces the extent and diversity of patient perspectives represented in the findings. Despite efforts to recruit patients through multiple channels, including health board networks and contractor patient engagement groups, only a small number ultimately participated. The short discussion with patients facilitated through the PAPIG meeting provided some valuable insights but offered limited time for participants to explore issues in depth. In addition, the individual patient interview conducted offered further nuance but was not sufficient to capture the breadth of patient experiences across settings, conditions or prescribing histories.

These constraints mean that the evidence presented reflects only a narrow segment of patient views. As such, the findings may not fully encompass the range of patient experiences related to prescribing intervals, their expectations of repeat medication processes, or potential barriers encountered by groups less likely or able to engage in research. While the insights obtained were helpful in highlighting key considerations, further research involving a larger and more diverse patient sample would strengthen understanding of the patient-facing behaviours for extending prescribing intervals.

Supplementary questionnaire

The low response rate and an incomplete census mean the findings cannot be generalised or used to draw conclusions about the prevalence of views and experiences captured.

APEASE workshop

Time constraints limited the effectiveness of the APEASE workshop. As the session covered a substantial amount of background information, including barriers, facilitators and proposed interventions, the volume of information proved challenging for stakeholders who had not engaged previously. Limited time reduced opportunities to build familiarity and provide sufficient context, while varying levels of experience with digital whiteboard tool Miro created participation challenges for some attendees. Holding an earlier workshop to generate and prioritise interventions could have supported stakeholder engagement and familiarised participants with the tools and concepts in advance.

4. Behavioural journey mapping

This chapter maps the behavioural journey within the repeat prescription supply pathway in Wales, highlighting key stages where the updated All Wales guidance can be implemented and the behavioural factors influencing these points. It also identifies the stakeholders involved, their relative influence on prescribing decisions and the desired behaviours required at each adoption point to support the implementation of extended prescribing intervals.

4.1. Repeat prescription supply pathway

A behavioural journey mapping workshop was held with individuals involved in the repeat prescription supply pathway in Wales, including general practice staff, health board staff members, CPW and a Welsh Government pharmacy advisor and DHCW representative (see section 3.1.3). Together, the group co-produced a map of the repeat prescription supply pathway in Wales and identified key stages for implementing the updated All Wales guidance. The discussion also explored potential barriers and facilitators affecting behaviour across these stages. Below is a refined summary of the typical repeat prescription journey and key themes raised during the workshop.

Stage 1: The patient orders a repeat prescription

Patients or their representatives begin the process by checking their medication supply. When they have around seven days left, they request a repeat prescription from their GP surgery, either directly or requests are made on their behalf using pharmacy repeat ordering services. Direct requests can be made using paper forms, post or online services such as email, the My Surgery App or the NHS Wales App, depending on practice systems.

Stage 2: The repeat prescription request is reviewed, processed and signed at the GP surgery

A prescription clerk or dedicated staff member reviews incoming prescription requests. Where queries arise, review and/or reauthorisation is required by the clinical team. Once queries are resolved, prescriptions are generated and the prescriber signs and issues the prescription.

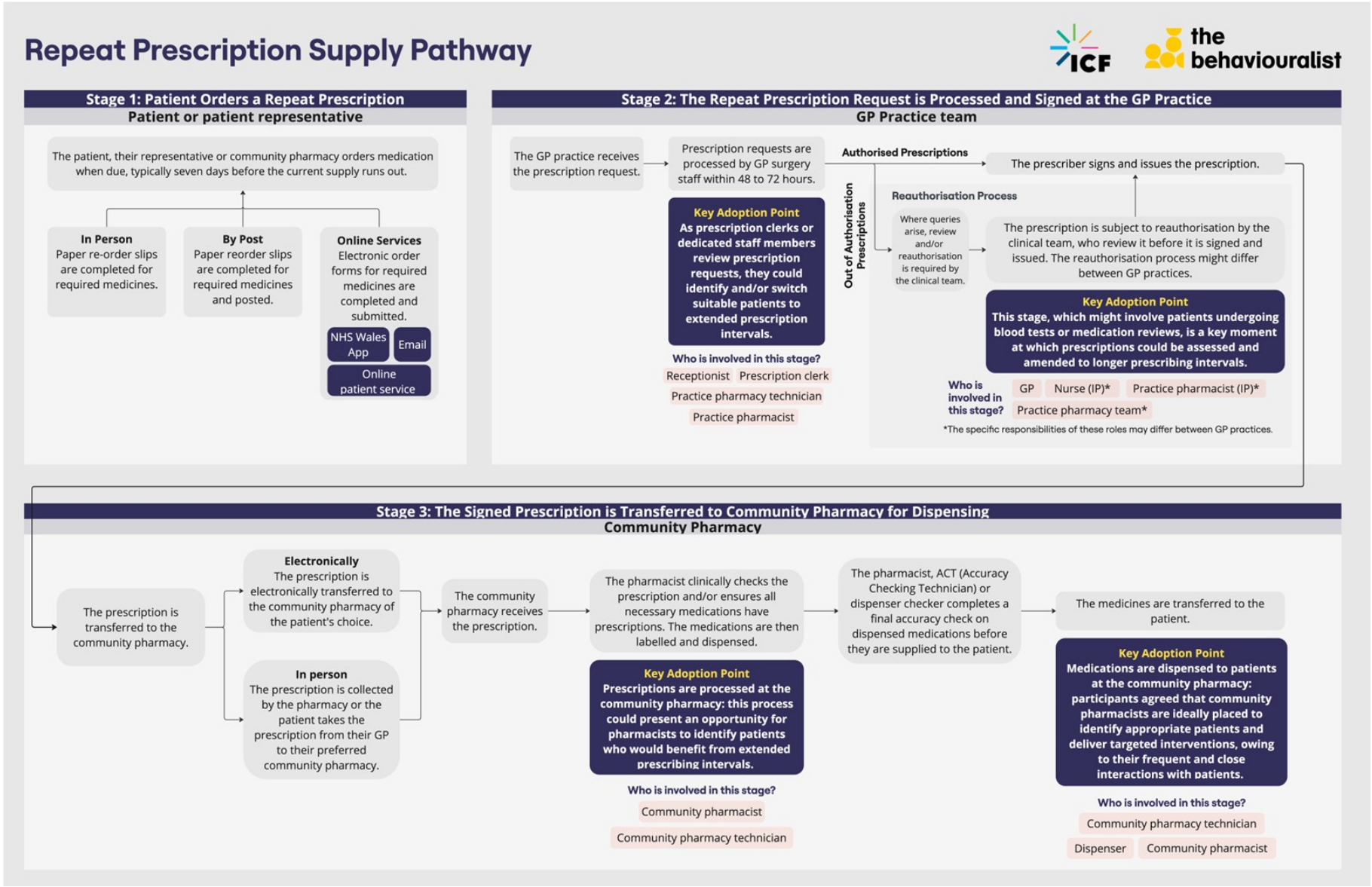
Stage 3: The signed prescription is transferred to the community pharmacy for dispensing

Paper prescriptions are usually sent to the patients' chosen pharmacy but can also be collected from the GP surgery. Following the implementation of EPS, an increasing number of prescriptions are digitally signed and electronically sent to the patient's nominated pharmacy for dispensing.

The community pharmacist clinically reviews the prescription to ensure it is correct and contacts the GP practice if clarification is needed. Pharmacy staff then dispense, check and bag the medication, which is then collected by the patient.

A diagram illustrating the repeat prescription supply pathway described is set out in Figure 4 below.

Figure 4: Repeat prescription supply pathway

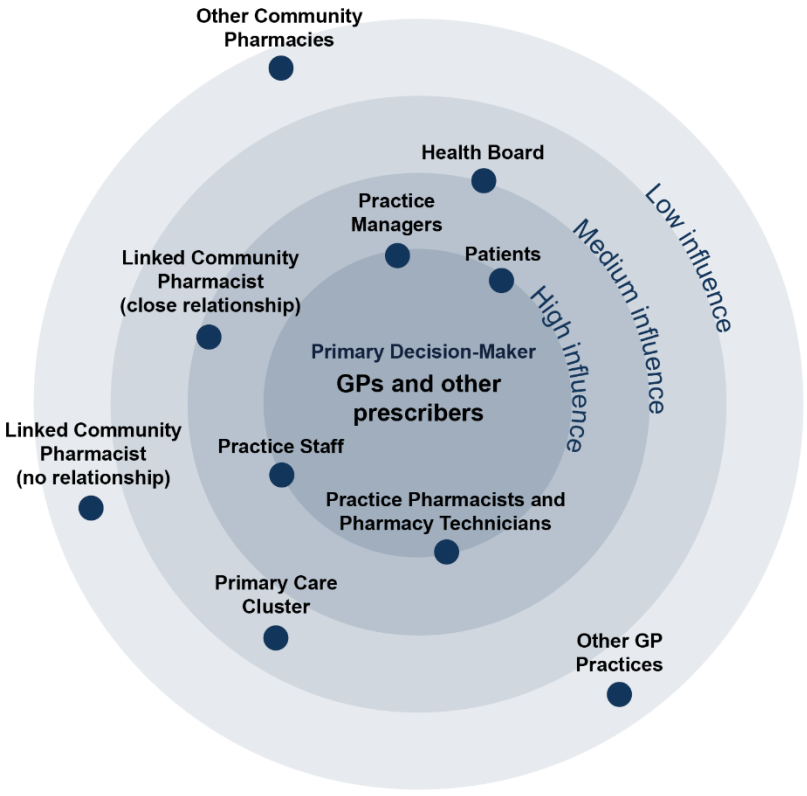


Description of Figure 4: A three-stage flow diagram showing the repeat prescription supply pathway. Stage 1: the patient requests a repeat prescription via paper, email, apps or online services. Stage 2: the GP practice reviews, resolves queries, undertakes checks or reviews, and the prescriber signs and sends the prescription. Stage 3: the community pharmacy clinically checks, dispenses- and supplies the medication, with opportunities for pharmacists to flag patients suitable for longer prescribing intervals.

4.2. Hierarchy of influence on the primary decision-maker

As described in section 2.2, the research team analysed the decision-making pathway of GPs and other prescribers using the Integrated Model framework, concluding that GPs and other prescribers (such as pharmacists and nurses) are the primary decision-makers for extending prescribing intervals. Building on this and insights from the workshop, the study team mapped stakeholders involved in the repeat prescription process and developed an initial assessment of their relative influence (Figure 5). The graph positions the key decision-maker (GPs and other prescribers) at its centre, with surrounding stakeholders arranged according to their level of influence.

Figure 5: Hierarchy of influence on the primary decision-maker



Description of Figure 5: A concentric-circle diagram illustrating the hierarchy of influence on GPs as the primary decision-makers for prescribing intervals. GPs and other prescribers sit at the centre, surrounded by circles representing high, medium and low influence. High-influence groups include practice pharmacists, practice staff, practice managers and patients. Medium-to-high influence includes health boards and linked community pharmacists with a close relationship, while the

medium-influence ring includes primary care clusters. Other community pharmacies, other GP practices and linked community pharmacists with no relationship have low influence.

High-influence groups are practice-employed pharmacists, practice staff (including receptionists, prescription clerks and administrative staff), practice managers and patients. Medium to high influence groups are health boards (including medicines management and pharmacy teams) and linked community pharmacists that have a close relationship with the practice, while PCCs have medium influence. Linked community pharmacists with no relationship with the practice, other community pharmacies and other GP practices have low influence.

4.3. Policy adoption points

The diagram in Figure 4 illustrates the process outlined above and highlights four key adoption points that were identified by workshop participants as critical opportunities for the implementation of the policy. These four key adoption points are:

- prescriptions are processed by GP practice staff: as prescription clerks or other staff members handle prescriptions individually, they could identify and/or switch suitable patients to extended prescribing intervals
- repeat prescriptions that need review are sent to a prescriber for reauthorisation: this stage, which might involve patients undergoing blood tests or medication reviews, is a key moment at which prescriptions could be assessed and amended to longer prescribing intervals
- prescriptions are clinically checked at the community pharmacy: this process could present an opportunity for pharmacists to identify patients who would benefit from extended prescribing intervals by informing prescribing GP practices of potential candidates
- medications are transferred to patients at the community pharmacy: participants agreed that community pharmacists, pharmacy technicians and other pharmacy staff are ideally placed to identify appropriate patients and deliver targeted interventions, owing to their frequent and close interactions with patients

4.4. Desired behaviours for the implementation of extended prescribing at key adoption points of the repeat prescription supply pathway.

This section identifies the key adoption points in the repeat prescription supply pathway, as outlined in section 4.3. Table 3 describes the desired behaviours at the key adoption points for each stakeholder group, organised according to the hierarchy of influence. Stakeholders with the greatest influence on the primary decision-maker (the GP) appear at the top; those with the least influence appear at the bottom.

Table 3: Desired behaviours for implementing extended prescribing intervals at key adoption points in the prescription supply pathway

Stakeholders	Involvement	Prescription requests are processed by GP practice staff	Prescriptions are reauthorised at the GP practice during medication reviews	Prescriptions are clinically checked at the community pharmacy	Medicines are transferred to the patient at the community pharmacy
GPs and other prescribers, including nurses and pharmacists	Direct	GPs and other prescribers are not directly involved at this point	1) GPs or other prescribers switch patients to longer prescribing intervals when appropriate during medication reviews. 2) GPs or other prescribers inform patients about the behavioural implications of switching to longer prescribing intervals.	GPs and other prescribers are not directly involved at this point.	GPs and other prescribers are not directly involved at this point.
Practice pharmacists and pharmacy technicians	Direct	Practice pharmacists and pharmacy technicians can identify patients who may be suitable for extended prescribing intervals when managing prescription queries. If part of their role, they may discuss this with patients and make the required changes,	If part of their role, the practice pharmacist switches patients to longer prescribing intervals when appropriate during medication reviews.	Practice pharmacists and pharmacy technicians are not directly involved at this point.	Practice pharmacists and pharmacy technicians are not directly involved at this point.

		where authorised and competent to do so.			
Practice staff, including prescription clerks and receptionists	Direct	1) When they handle prescriptions individually, practice staff flag suitable patients for GPs to review and approve. 2) Practice staff inform patients about extended prescribing intervals and display information on the practice website and notice board.	Practice staff are not directly involved at this point.	Practice staff are not directly involved at this point.	Practice staff are not directly involved at this point.
Patients	Direct	Patients are informed and encouraged to advocate for longer prescribing intervals at the GP practice through practice staff, notice boards, website, etc.	Patients give their consent to switch to longer prescribing intervals. Their GP adequately informs them of any implications for their medicine management habits, including medicine storage, prescription ordering, and how to prevent and handle medicine waste.	Patients are informed about their eligibility for extended prescribing intervals, including details on the behavioural implications of this policy, such as their medicine management habits.	Patients receive their medicines.

Community pharmacy staff, including community pharmacists and community pharmacy technicians	Indirect	Community pharmacy staff are not directly involved at this point.	Community pharmacy staff are not directly involved at this point.	The community pharmacist identifies suitable and unsuitable patients for longer prescribing intervals during their clinical checks at the pharmacy. Communication between the community pharmacy and the GP practice is established through a feedback mechanism.	Community pharmacy staff discuss suitability with the patient and provide information about longer prescribing intervals.
Practice managers	Direct and indirect	1) Practice managers, along with GPs and practice pharmacists, create a guide for practice staff on how to identify suitable patients. This guide includes a clear definition of which patients or patient groups are appropriate for longer prescribing intervals. 2) Practice managers, along with GPs and practice pharmacists, provide training to practice staff on how to identify patients who qualify for longer prescribing intervals.	Practice managers are not directly involved at this point.	Practice managers may indirectly influence prescribing intervals through establishing a feedback mechanism with community pharmacists, allowing for regular communication between both stakeholders and facilitating a smooth transition to extended prescribing intervals.	Practice managers are not directly involved at this point.

Health boards	Indirect	1) The health board offers support to GP practices and community pharmacies to identify suitable patients, including by providing resources, shared decision-making tools, training and promoting collaboration. 2) The health board also supports the development of educational materials for patients regarding extended prescribing intervals, which practice staff can provide to patients.
PCCs	Indirect	PCCs discuss and agree to an approach to identify and target suitable patients for longer prescribing intervals, including defining and agreeing upon which patient groups should be considered.

5. Trends in prescribing and dispensing intervals

5.1. Chapter summary

This chapter sets out the findings from the analysis of the quantitative data regarding prescribing intervals. The main findings are highlighted below:

- **variation across health boards** – there was substantial variation in average prescribing intervals among non-dispensing GP practices across Welsh health boards in 2024
- **upward trend in prescribing intervals** – all health boards showed a consistent upward trend in average prescribing intervals from 2022 to 2024
- **factors influencing uptake (mixed effects modelling)** – most variation was due to differences between individual GP practices, not health boards (i.e., the variation between GP practices within health boards was greater than the variation in average prescribing intervals between health boards)
- **trends over time (ARIMA Modelling)** – the ARIMA model showed a steady, gradual increase in average prescription lengths from early 2022 to early 2024, with no sudden jumps or drops.

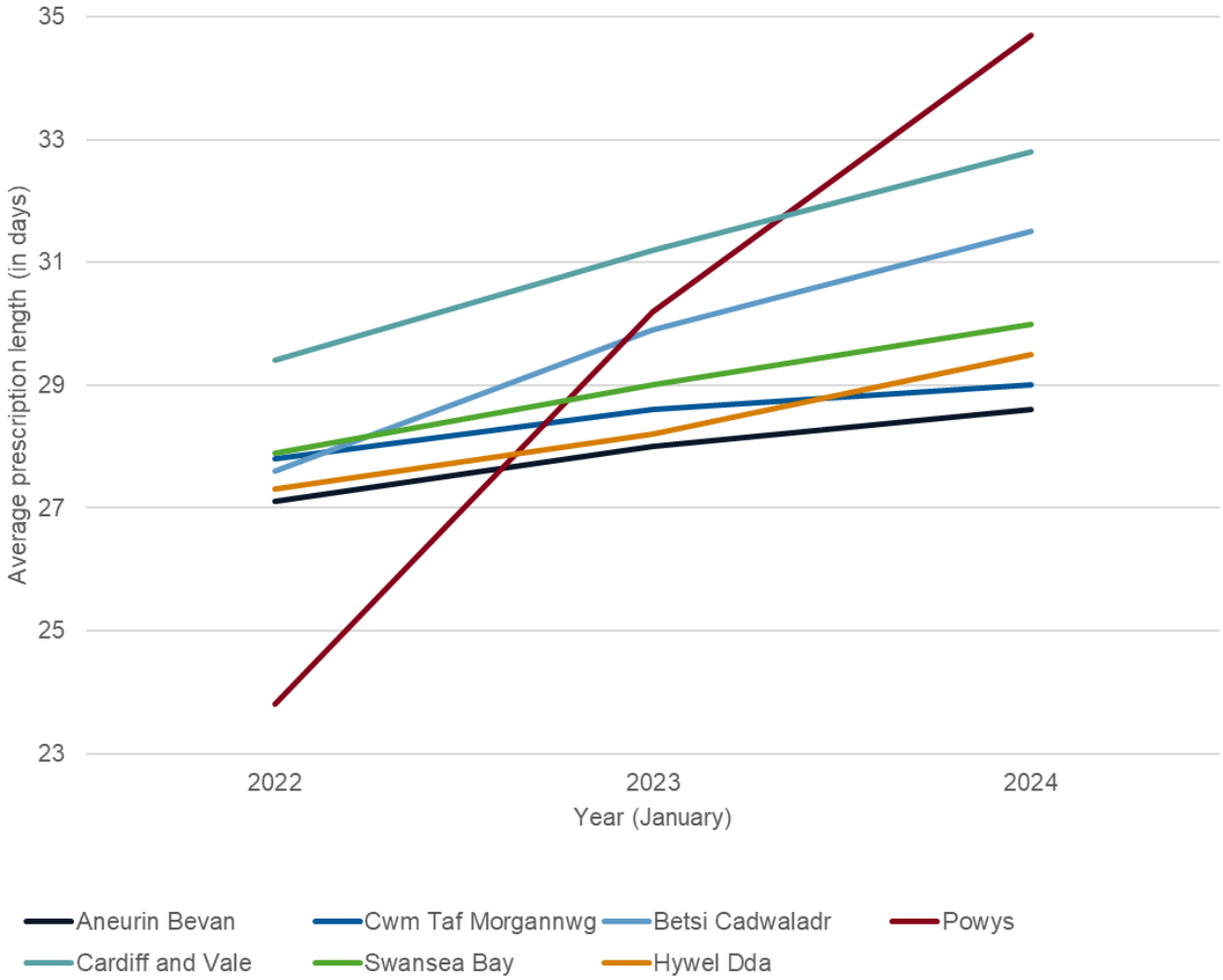
5.2. Changes in prescribing intervals

The research team undertook analysis of the data relating to average prescribing intervals. They found that among non-dispensing GP practices intervals varied substantially across health boards in 2024.

Figure 6 shows a clear upward trend in the average prescribing interval for each health board from 2022 to 2024. Powys tHB stood out with the largest increase of 46% (11 days) to 35 days in 2024, from 24 days in 2022.

Betsi Cadwaladr UHB and Cardiff and Vale UHB, also showed an increase of four days (to between 32 and 33 days) between 2022 and 2024. Aneurin Bevan UHB, Cwm Taf Morgannwg UHB, Hywel Dda UHB and Swansea Bay UHB experienced more modest increases, with average prescribing intervals ranging from 29 to 31 days in 2024.

Figure 6: Average prescribing intervals in non-dispensing GP practices by health board, January 2022, January 2023 and January 2024



Description of Figure 6: A line chart showing a consistent upward trend in the average period of treatment (in days) across all Welsh health boards in January 2022, 2023 and 2024, with all boards experiencing increases over this period. The increase is particularly pronounced for Powys Teaching Health Board. Note dispensing practices are not included in this data.

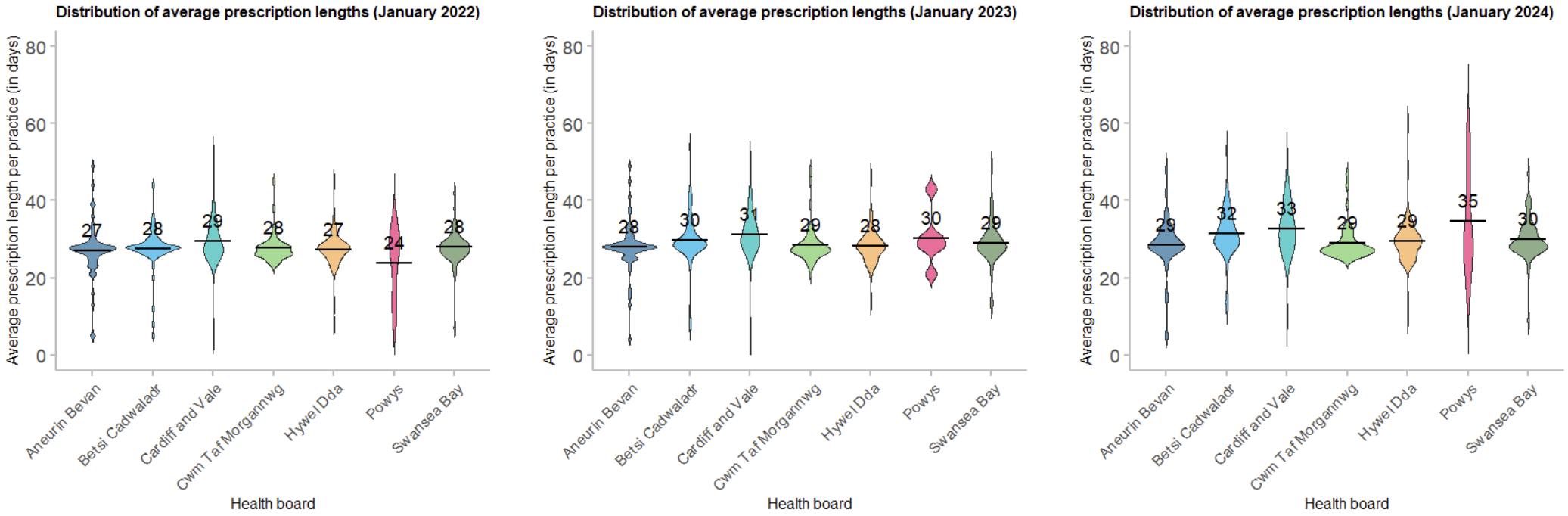
Source: Data on prescribing intervals per practice (January 2022, 2023 and 2024) provided by the NWSSP.

Analysis of prescribing intervals across Wales revealed substantial variation between health boards. The violin charts in Figure 7 show how average prescribing intervals were distributed in 2022, 2023, and 2024: wider sections of each violin indicate more prescriptions at that interval, while longer violins reflect a broader range of prescribing lengths.

Powys tHB and Cardiff and Vale UHB displayed elongated distributions at the start and end of the period, suggesting more tailored prescribing, whereas Betsi Cadwaladr UHB shifted from a concentrated to a more elongated pattern over time. In contrast, Cwm Taf Morgannwg UHB, Aneurin Bevan UHB and Swansea Bay UHB showed more concentrated distributions, indicating standardised prescribing with less variation. Notably, Powys tHB

experienced a temporary contraction in 2023, pointing to a short-term change in prescribing behaviour before returning to a broader range in 2024.

Figure 7: Distribution of prescribing intervals in non-dispensing GP practices by health board, 2022 to 2024



Source: Data on prescribing intervals per practice (January 2022, 2023, and 2024) provided NWSSP.

5.2.1 Motivation barriers Factors influencing uptake of longer prescribing intervals

Mixed effects modelling

The study used mixed effects modelling to identify factors influencing prescribing intervals in non-dispensing GP practices. The data were structured hierarchically across GP practices, localities and health boards. The first, 'fixed effects' modelling captured the influence of characteristics on prescribing intervals for all practices, assuming these effects are the same for all practices in the study (variables included: health board and individual GP surgery). The second, 'random effects' modelling, considered variations between individual GP practices and regional groupings (variables included: year of prescription; number of patients per GP; and number of patients aged 65 or over per GP).

This dual approach enabled a nuanced understanding of both general prescribing trends and the variability across different levels. The results are expressed in terms of a statistic 'R^2', which indicates how much of the variation is explained by the variables included in the model. The 'marginal R^2' reflects the fixed effects model and the 'conditional R^2' reflects the situation when both fixed and random effects were used together. A brief overview of the findings is included below, and more detail can be found in Annex A. The key results from the mixed effects modelling are summarised as follows:

- **marginal $R^2 = 0.272$**: this means the fixed effects alone (such as year, rurality, age structure, and deprivation) explained 27.2% of the variation in prescribing intervals. These general factors had a moderate influence
- **conditional $R^2 = 0.872$:** the model explained 87.2% of the variation when both fixed and random effects were included, indicating that an additional 60% of the variation was explained by differences between individual GP surgeries and regional structures

The mixed effects modelling indicated that most variation in prescribing intervals occurs at the level of individual GP practices rather than between health boards. Several practice- and population-level characteristics were statistically associated with prescribing intervals, although these should be interpreted as correlations rather than determinants.

Practices with a higher proportion of patients aged 65 and over were associated with slightly longer prescribing intervals ($p < 0.00001$), while those practices located in areas of highest deprivation (i.e., in the highest deprivation quintile, based on the number and percentage of each patient population living in the 20% most deprived small areas) issued slightly shorter intervals on average ($p = 0.0082$). Rurality did not show a statistically significant association once other factors were controlled for ($p = 0.44$).

These results do not indicate causation but highlight variables that are statistically associated with prescribing intervals when examined together in the mixed effects model. These associations were not explored further to determine whether they meaningfully explain the observed variation.

ARIMA modelling

The ARIMA method was used to assess how prescription lengths changed over time, from early 2022 to early 2024 across the whole of Wales. The data showed a steady increase in the average length of prescriptions during this period. This suggests that GP practices were gradually adopting longer prescribing intervals, likely in response to the policy changes. Importantly, there were no sudden jumps or drops. This aligns with expectations, as the policy was designed to be implemented gradually and with a patient-centred approach, rather than causing abrupt changes.

The model also confirmed that this upward trend followed a consistent pattern. That means the changes in prescribing behaviour were likely influenced by real-world factors. For example, evolving practice norms, increased awareness of the guidance and improvements in prescribing systems.

6. Barriers and facilitators

6.1. Chapter summary

This chapter presents barriers and facilitators to the behaviours required in implementing the All Wales guidance on extending prescribing intervals through a more individualised prescribing approach. The sections follow the elements of the Integrated Model: motivation, choice, execution and outcomes/feedback. The section below summarises the main findings of the qualitative fieldwork and supplementary questionnaire, with relevant insights from the literature review used to support and contextualise these results.

Motivation

Barriers: GPs view changing prescribing intervals as low priority compared with other clinical tasks; concerns about potential negative effects such as increased medicine waste, confusion, cost, workload and reduced patient contact.

Facilitators: practice staff perceive benefits including reduced workload, fewer contacts for stable patients and simpler processes, when supported by clear rationale, leadership and collaboration.

Choice

Barriers: perception of short-term time/effort costs with uncertain long-term benefits; limited staff capacity makes systematic reviews or blanket changes difficult; identifying suitable patients is time-consuming.

Facilitators: some practices find it relatively quick to make changes when resources are available; payment schemes and financial support from health boards can incentivise adoption and encourage collaboration.

Execution

Barriers: clinical decision-making for extending intervals is complex and cognitively demanding, especially for patients with multiple medications or unstable conditions; inconsistent communication and lack of staff training; lack of collaboration between GPs and community pharmacists.

Facilitators: dedicated practice or cluster pharmacists; involving and training administrative teams; strong collaboration and open communication between GP practices and community pharmacies; patient-led approaches, clear communication, and system reminders support adherence and reduce confusion.

Outcomes and feedback

Barriers: synchronisation issues (patients on mixed intervals) create additional work and confusion; community pharmacies facing stock management challenges, loss of income and increased operational strain; patient confusion; safety concerns.

Facilitators: reduced workload for GP practices; greater patient satisfaction and more sustainable, embedded processes supported by pharmacist input and clearer systems; where benefits emerged, they created reinforcing feedback loops that strengthened confidence and helped sustain continued implementation.

6.2. Motivation

As noted in section 2.1, the motivation element of the Integrated Model encompasses the internal factors shaping individuals' decision-making and behaviour. Motivation to adopt a behaviour often stems from personal values, needs, attitudes and perceptions. Beyond these internal drivers, individuals' knowledge and prior experience of a behaviour can also influence their level of motivation.

6.2.1. Motivation barriers

Motivational barriers ranged from the policy being viewed as low priority to concerns about potential negative effects and the absence of monitoring processes.

Extending prescribing intervals not an appropriate use of GP time

An objection to the policy identified by GP practice staff was that changing prescribing intervals was not an appropriate use of prescribers' expertise or time. One GP (Practice C) commented that "it's not a good job for a GP to be doing". They described the process as time-consuming and suggested it could be delegated to non-GP staff, as "differently trained staff are all perfectly capable of it" (GP, Practice C). A GP partner (Practice L) noted that while they were not opposed to the policy, clinicians generally do not view it as an important task; they noted that clinicians "don't think the conversations are worth having. They don't think it's worth their time and don't think they get paid enough".

Concern over potential negative effects of the policy

Some GPs resisted extending prescribing intervals due to concerns about the policy's overall efficacy, including risks of waste, additional workload, patient confusion and increased costs. One practice pharmacist described how concerns over waste and associated costs resulted in reticence amongst clinical staff toward the policy:

> "I think the one that makes everybody nervous is really high-cost drugs. What if, what if you change and you've already given them two months, you know. 100 quid a pop or whatever you're like, uhhhh!! It's a lot of potential waste." (Practice pharmacist, Practice F)

These concerns formed part of GPs broader considerations about the policy, building upon existing cognitive frameworks and contributing to assumptions that undermined motivation. A community pharmacist described initial reactions.

> "Initially, when we brought it to the GPs, they were completely against it. Their feedback was: 'it's going to create medicine waste, it's going to create confusion, it's going to cost more money in medicine waste.' They were concerned about compliance, and it goes against everything that we've done for the last 20

years…They weren't happy that the evidence was there to change over. So that was their initial view on it." (Community Pharmacist G)

Participants also suggested this reluctance stemmed from entrenched routines and resistance to changing long-established prescribing practices. PCCLs engaged in a focus group noted clusters had encountered greater resistance from GPs than practice pharmacists, who they perceived were more supportive of project-based efforts to change prescribing intervals. The wider evidence on outcomes is mixed on waste, with some analyses showing higher per-prescription wastage at intervals beyond 60 days but also points to improved adherence and potential overall cost savings when total costs are considered (Doble et al., 2017; King et al., 2018; af Geijerstam et al., 2024).

Scepticism toward the benefits of the policy

Some community pharmacists and GP practices were sceptical about the perceived benefits of extending prescribing intervals. They lacked clarity on the advantages and questioned whether this policy was a worthwhile investment compared with other priorities or initiatives. One community pharmacist thought the policy "does not help anyone" and suggested focusing instead on chronic disease management. Similarly, a practice manager felt resources might be better directed to the NHS Wales app.

"But then is 56-day prescribing the way forward? I don't know. It is probably a more effective spend on resource on the app. I would say that would be my preference." (Practice manager, Practice B)

This scepticism was shaped by past negative experiences with execution and outcome barriers such as practices and community pharmacies dealing with medication synchronisation issues, which feed back into GPs' motivation and by clinicians' attitudes, values and assumptions around primary care practice. Nonetheless, moderate-quality evidence across primary care settings suggests longer prescriptions are associated with better adherence and, in some contexts, fewer pharmacy/outpatient visits. These benefits may accrue where clinically appropriate and well-communicated (King et al., 2018; Yu et al., 2025).

Additionally, across the three focus groups with health board professionals, participants highlighted that perceived benefits to GP practices were less evident than for community pharmacies, weakening motivation early in the repeat prescription supply pathway. A primary care pharmacist (Health Board E) commented that communication had focused more on the benefits to community pharmacy workload, even though implementation must begin in general practice:

"I think we articulate extending period of treatment as a benefit to community pharmacy, a lot more than we articulate the benefit to general practice and as the work has to start in general practice, I think that's a big drawback to why it hasn't necessarily taken off." (Primary care pharmacist, Health Board E)

No process to monitor progress and changes

Community pharmacies and GP practices reported an absence of formal mechanisms to monitor progress or track changes to prescribing intervals. Several practice managers noted that clinical systems, such as EMIS[1], made it difficult to generate reports on patients switched to 56-day prescribing. Variations in dosage and quantities meant patients could not be easily identified through searches:

> "There's no way to really report it in a practice on a clinical system, to say, so I couldn't tell you now how many patients I've got on 56-day prescribing. Because there's no report that I can run for that, I can't say, "tell me those patients that have got 56 tablets", because you might be on there because you take 1 tablet twice a day. So you've got a 56-day tablet. So there's not like a report that you could say, or a code that says this patient is now 56-day prescribing." (Practice manager, Practice B)

Perspectives varied on the value of establishing monitoring systems. Some participants said the lack of monitoring reduced their ability to evaluate benefits and diminished motivation to sustain implementation efforts. One practice pharmacist noted that even when health board data was provided, it was slow to arrive and offered little incentive for practices to adjust their approach:

> "The figures you get from the health board are 3 months later. So it doesn't give you any incentive to say, where are you on how many you do? So something, on a lot of practice managers, if you give them a search they can run, that will drive change." (Practice pharmacist, Practice F)

Similarly, a senior pharmacy lead (Health Board E) noted that communications did not clearly set out health boards' monitoring role and the health board had only recently developed dashboards. A primary care pharmacist (Health Board G) noted practices could not access dashboards that had been developed by other organisations to understand the benefits.

Other participants expressed that while monitoring was lacking, introducing monitoring system may not be beneficial.

Concerns about having less contact with older patients

Both GPs and community pharmacists expressed concerns about reduced contact with older patients if prescribing intervals were extended. Frequent interactions were seen as valuable not only for maintaining continuity and quality of care but also for supporting patients' social engagement and well-being. Community Pharmacist A described preferring regular contact to "keep an eye on them". A GP partner (Practice L) felt that many older patients also preferred monthly contact:

> "Some of them prefer the monthly time schedule, I guess the monthly amount means they can go and speak to somebody. They can speak to the pharmacist. The people

[1] Clinical software used by many GP practices and pharmacies within the UK.

> in the pharmacy. It gives them something to do. A lot of these people are lonely, or they'll have social anxiety, agoraphobia. They won't go out unless they have a really good reason.” (GP partner, Practice L)

One practice manager (Practice B) reported their large older population meant a substantial part of their demographic “just aren’t suitable for 56-day” prescriptions, reducing motivation as they expected limited benefit. This reflects evidence that while longer intervals can improve adherence and convenience overall, they may be less suitable where frequent touchpoints provide safety, monitoring or social value (King et al., 2018).

6.2.2. Motivation facilitators

Although several factors undermined motivations to adopt the guidance, some participants expressed strong enthusiasm, which clearly supported implementation.

Some GP practices that successfully transitioned to extended prescribing intervals expressed very positive attitudes towards the policy. One GP partner described it as “something we've wanted to do for ages, we just saw it as a brilliant; let's get on with it" (GP partner, Practice C). These examples suggest that positive attitudes, particularly a belief in the policy’s benefits, can be an important starting point for behavioural change.

> “I think we were quite enthusiastic about change. Because we could see the potential for it to reduce our workload, reduce pharmacy workload, but also to make life easy for patients really. So, I think we were quite enthusiastic when that guidance came through to say right, OK let's get on board with this and let's do it.” (Practice manager, GP partner and prescription clerk, Practice A)

> “It's a good idea. I think it works well. Obviously, there are a few caveats to who you can and cannot use it for, but I think overall it's quite good.” (GP partner, Practice B)

> “There's no reason why they shouldn't be moved for 56-day prescribing process because it's easier for the patient and it's less work for us.” (Practice manager, Practice I)

Health board professionals highlighted patient benefits as a major motivator for GP practices. A senior community pharmacy lead (Health Board A) noted that patients were generally “open to the change, especially those with multiple medications”, as they perceived they would benefit from the increased convenience associated with fewer visits to the pharmacy. A patient interviewed echoed these “self-explanatory” benefits, perceiving reduced time spent waiting to collect prescriptions. A senior medical lead (Health Board F) added that patient requests could accelerate adoption: “if patients ask for this [extended prescribing intervals], it’s more likely to happen”.

Importantly, there were cases where initial positive attitudes towards the policy were reinforced by experiences of its implementation, establishing a positive feedback loop (see section 6.5.2). These facilitators align with evidence that leadership, collaboration and clear articulation of rationale and benefits strengthen motivation and uptake.

6.3. Choice

As noted in section 2.1, motivation alone does not guarantee action. This phenomenon, commonly referred to as the intention–action gap, describes the disparity between stated intentions and actual behaviour. This gap often reflects practical constraints, particularly how individuals view the optimum way of allocating their limited time and resources, balancing perceived costs and benefits. The literature similarly describes "bounded rationality", where limited capacity restricts choices even when motivation exists (Smale et al., 2023), and identifies time restrictions as the dominant barrier to adopting prescribing guidance (Paksaite et al., 2020).

6.3.1. Choice barriers

A core challenges for implementing the guidance was the fact that it generated short term costs while producing uncertain benefits that would only be realised in the medium to long term. Guidance emphasises that prescribing intervals should only be extended where it is clinically appropriate; this requires identifying suitable patients, engaging in shared decision-making, reviewing medications (through reviews or systematically), updating patient notes and informing patients. GP practices engaged considered various approaches, from gradual changes in medication reviews to more systematic, short-term transitions.

Clinical priorities during medication reviews

GPs considering changes during medication reviews reported having competing clinical priorities to consider, which limited time available to amend prescribing intervals. A practice pharmacy technician explained that although practitioners were motivated, they were frequently occupied with urgent consultations and high prescription volumes, which took precedence over reviewing prescribing intervals:

> "Because when medication reviews are taking place by the GPs, ANPs [Advanced nurse practitioners] or pharmacists, they're often dealing with quite clinically urgent patients. So it's really not on their agenda at that point to then look at – can we give them two months at a time instead of one?." (Pharmacy technician, Practice D)

> A community pharmacist noted that making changes could increase workload, as to "go into each medication and change the quantity, ensure it's appropriate, sync everything up…could add an extra 2 to 5, 6 minutes that a GP just doesn't have." (Community Pharmacist K)

Limited staff capacity for systematic reviews

GPs also raised capacity issues when attempting systematic reviews of prescribing intervals outside of medication reviews. A practice pharmacist (questionnaire) noted the practice chose not to introduce "a blanket switch in one go"; the volume to consider meant this would be a substantial piece of work, which they had limited capacity to do. GP practice staff noted that overtime, substantial additional work or pulling staff from clinical duties made rapid changes harder to justify, particularly when GP partners were uncertain about long-term cost and time savings.

Ultimately, many GP practice staff interviewed, including practice managers, practice pharmacists and pharmacy technicians felt they lacked time to implement the policy:

> "We did struggle with time and resources for people that were already working within the practice to then find time to amend and increase the intervals." (Pharmacy technician, Practice D)

One practice manager stated that "unfortunately, with GP surgeries, there are never enough hours in the day" (practice manager, Practice N) and highlighted that "identifying patients is very time-consuming." Another practice manager reported that while extending prescribing intervals would reduce patient contact and improve patient convenience, "the burden to get from A to B here is quite great all the way around" (practice manager, Practice H).

A practice pharmacist reported that "GP practices are so busy" and that "you need to be able to just take that step back and go, what's the sensible thing for this patient?" (practice pharmacist, Practice F). Another practice pharmacist noted the additional workload created by efforts to extend prescribing intervals, intensifying existing time pressures:

> "When you've got someone who's on 15 medications, having a medication review to go through them all and then change everything across to 56 days is quite a bit of work." (practice pharmacist, Practice I)

<u>Competing priorities</u>

Some GP practice staff reported that extended prescribing intervals were not a priority. This was evident in interviews where participants demonstrated limited awareness or knowledge of the policy. Staff interviewed in Practice I explained the practice was focused on addressing what they perceived as more pressing priorities:

> "The 56-day prescribing has gone sort of way down on the priorities for us. So that when it first came out, it was a lot of enthusiasm for it. And now it's sort of being sort of parked. And there are a lot of other things." (Practice manager, Practice I)

> "The focus hasn't really been on 56-days, it's been much more about sort of cost savings. You know what you can do to optimise costs and a bit more in patient safety, I guess, rather than, 56-days has not really seemed like a priority." (Practice pharmacist, Practice I)

A GP partner suggested the policy could be prioritised if "effectively funded by the health board [...] then we'll push for it," suggesting that external drivers may be necessary to stimulate engagement with the policy:

> "If it's a health board target and we get measured against the other surgeries in the area, it would be a completely different story." (GP partner, Practice L)

Economic and structural incentives also shape choices. Reimbursement structures have historically favoured shorter intervals; recent CPCF adjustments and compensation mechanisms in Wales may shift these incentives for community pharmacies (Holdroyd et al., 2025; MacKenna et al., 2025; Doble et al., 2017; Miani et al., 2017; af Geijerstam et al., 2024).

6.3.2. Choice facilitators

Not all GP practices experienced these constraints to the same extent. One practice pharmacist (Practice M) described changes during medication reviews as “relatively quick” and felt a tailored approach went “hand in hand” with their role. While reviewing prescribing intervals was a low priority, a practice manager (Practice I) reported the practice had time and resources for “quality improvement projects”, allowing them to “implement a change and see if it works.” This suggests that where resources are available and the investment is justifiable, barriers to prioritising prescribing interval reviews are reduced.

The belief that resource constraints were undermining the adoption of the policy was supported by reports from several GP practices. They noted that an incentive scheme established by one health board, although modest, motivated the adoption of the policy and encouraged collaboration between GPs and community pharmacies. This approach promoted active planning and coordinated action. By combining a monetary incentive with an action plan and predefined targets, the scheme encouraged the adoption of the guidance and made involvement more rewarding for GP practices.

> “I think the fact that that there was payment associated for doing work definitely made it more attractive as a bit of work to do.” (Practice manager, GP partner and prescription clerk, Practice A)

> “One big thing is having the financial support to be able to allocate the time to do it, because you're taking staff away from doing their normal day-to-day work. This is a big piece of work, so having that extra funding helps.” (Practice manager and GP partner, Practice N)

However, a GP partner remarked the scheme's target, set at achieving a 25% change in prescribing intervals among eligible patient groups, would need to be raised for their practice to experience any benefits from the policy's adoption.

> “For the provision of the funding, the target is 25%. There has to be more funding, and the target needs to be better than that to get the full benefit. If you stop at 25% changing it, you're not getting full benefit out of the scheme. There are lots of savings in terms of monetary, patient benefit, which would actually support for this scheme to be extended, to have a higher target and associate funding with it. So, more funding definitely needs to be there for it.” (Practice manager and GP partner, Practice N)

> Another practice manager said their practice received no financial remuneration due to being "proactive" as they had already transitioned to extended intervals before the incentive scheme began. They argued that "if we had financial support, we could have employed [someone] who could get staff to do extra to actually ring and proactively change rather than doing it opportunistically. It would definitely speed the process up." (Practice manager, Practice J)

Additionally, a community pharmacist suggested incorporating incentives directly into the GMS contract, with QAIF points, could facilitate policy adoption.

> “I don't think we're going to see any sort of traction on it until the GMS contract has got something. I don't know much about the GMS contract, but they get things like points for certain things, QAIF [Quality Assurance and Improvement Framework] points. So I think until there is QAIF points for the percentage of 56-prescribing so that the GPs can earn points and if they don't do it, they're going to get penalised for not doing it. I think we're going to struggle to get, I think it will gradually increase slowly without this. But I think for any real traction it needs something in the GP contract to monitor your monetary performance and give them and provide QAIF points.” (Community pharmacist H)

A pharmacy professional (Health Board D) noted that introducing a modest financial incentive for practices to extend prescribing intervals in the health board served as an “initial motivator”, as it encouraged practices to make the decision to change.

Finally, a practice manager, whose health board had not established an incentive scheme, expressed a need for more support, communication, and guidance. They wanted more help for practices from the health board to implement the changes to prescribing intervals.

> “Maybe the health boards could potentially engage a little bit more with us about that [...] because at the moment I get no engagement about 56-day prescribing. I have to go and get that information.” (Practice manager, Practice I)

These facilitators are consistent with evidence that targeted incentives and clear action plans can shift choices towards extended intervals where resource constraints are salient (af Geijerstam et al., 2024; Doble et al., 2017; Miani et al., 2017).

6.4. Execution

Even when individuals are motivated and have selected a preferred course of action, implementing that choice can present substantial challenges. Execution refers to the practical ability to carry out a behaviour and is shaped by two core factors: opportunity, the external conditions that facilitate or impede action, and capability, including skills, physical abilities and cognitive capacity. Overlooking execution barriers can undermine well-designed- interventions, as even highly motivated individuals may struggle to follow through when external constraints or capability limitations are present.

6.4.1. Execution barriers

Execution barriers observed during the research mainly related to the complexity of clinical decision-making, gaps in knowledge and communication, human error, GP-pharmacy relationships and limited support.

<u>Complexity of clinical judgment</u>

Switching patients to longer prescribing intervals required GPs to consider patient characteristics, clinical history and perceived stability. Some GPs found this more complex than anticipated, which they felt limited policy uptake. A GP partner noted that it was not “just a blanket switch” but rather involved processing detailed information and applying

clinical judgement, which “wasn’t as straightforward as we would have thought” (GP partner, Practice N).

GPs reported finding individualised clinical decision-making to be a cognitively demanding and complex task. This, alongside time and workload pressures, slowed implementation. A senior pharmacy lead (Health Board E) noted that limited national guidance meant practices had to deliberate extensively, which “delays the implementation of actually making a change”. This reflects that case-by-case decision-making increases cognitive burden, whereas simplification and clear rationale facilitate adoption (Paksaite et al., 2020).

Inconsistent communication and training

In some practices, limited progress was perceived to result from inconsistent communication and a lack of staff training. Not all staff, particularly receptionists, received information about the All Wales guidance, leading to uneven implementation. Well-informed staff could resolve issues quickly; staff with limited knowledge could not, increasing delays and creating further work.

Some practices addressed this by establishing clear training and internal policies so administrative teams could make changes independently. Clarifying which patients required clinical review and which were straightforward reduced the burden on prescribers. More detail on involving and training administrative teams is provided in section 6.4.2.

Lack of communication with patients

Poor patient consultation and communication, often linked to gaps in staff training, contributed to a lack of understanding about the change to prescribing intervals. When patients were not properly informed, this undermined effective policy implementation, as additional staff time and resources were required to reassure them. Some community pharmacists described patients being surprised by prescription changes or reporting unclear explanations:

> “When a patient has changed to 56-days, invariably it was done without consultation. […] I think where it's falling down is the lack of consultation with the patient and the patient understanding of what’s going on.” (Community pharmacist B1)

Clear patient communication is also highlighted as a facilitator of adherence and successful implementation in the broader evidence (King et al., 2018; af Geijerstam et al., 2024).

Human error

Human error was another barrier, creating confusion, waste and additional administrative work. One source of errors reported was EMIS defaulting to a 28-day supply; prescribers who overlooked the on-screen reminders would accidentally issue the default 28-day prescriptions, instead of the intended 56-day supply.

In some cases, prescribers failed to notice that a patient’s prescription length had already been extended, resulting in two-month supplies being dispensed in monthly intervals.

> “Sometimes things get issued every month and then all of a sudden you'll think, jeez, this patient must have 12 months’ worth of medication in their house, and we're having to chase down our tails and move everything around to make sure they're not getting excess medication.” (Reception manager, Practice B)

Medications taken twice a day were another source of errors, as prescribers sometimes mistakenly thought those patients were already on 56-days. One community pharmacist (E) explained that when prescription clerks saw ‘56’ on the label they interpreted it as two months’ supply without checking the instructions, which specified that it was one medication twice a day and therefore a one-month supply. This misunderstanding led to frequent back-and-forth with surgeries to resolve discrepancies, involving significant time and effort. The research literature suggests these issues are compounded where clinical systems default to 28-day supplies; where defaults are longer, they can nudge towards extended intervals (MacKenna et al., 2025; Mehta et al., 2025).

Relationship between GP practices and community pharmacies

In some cases, effective communication channels between pharmacists and GPs enabled community pharmacists to substantially influence practice decision-making; in others, misalignment caused tension. One GP practice delayed implementation after a community pharmacist raised concerns about the impact on dispensing fees.

However, practices did not always consider pharmacists’ views, even when aware of them. In one instance, a practice proceeded with implementation despite strong opposition from the community pharmacy, resulting in tension and undermining the sustainability of the change. Similarly, one patient who was interviewed commented on the lack of co-ordination between their GP and pharmacy, noting that both tended to blame the other for prescription issues.

GPs noted that relationships with local pharmacies significantly affected how smoothly the policy was implemented. They found it easier to extend prescriptions when working with independent pharmacies open to discussion, while chain pharmacies were perceived as more financially driven and less willing to engage.

> “But us personally, it was dependent on the pharmacy, so it was much easier discussion and implementation with one group of pharmacies that it was with the other. So, one was more cost driven than the other.” (Practice pharmacist, practice F)

Evidence underscores that strong collaboration and leadership facilitate implementation; misaligned incentives can strain relationships (Smale et al., 2023; Doble et al., 2017; Miani et al., 2017).

Limited support and guidance

Some GP practices felt they lacked support to implement the updated All Wales guidance, which restricted their capability to act. In these cases, practice staff were unaware of formal resources or structured support, leading to low awareness and uncertainty around how to implement it effectively.

> “There’s probably not a lot of understanding of it, to be honest. I think people might have heard of it, might be aware of it, but it’s not been particularly aggressively promoted” (GP, Practice I)

Similarly, participants in a Community Pharmacy Collaborative focus group reported that they had limited guidance, which added to the challenge of supporting implementation.

Pressures on time and resources

Some GP practices reported that limited time undermined their ability to carry out individualised reviews and shifted focus towards increasing intervals rather than engaging patients in shared decision-making. Although shared decision-making was recommended within the All Wales guidance, some GPs lacked capacity to implement this approach. One practice noted that financial incentives in their health board created deadlines that increased pressure to make changes rapidly, placing additional demands on staff time and resources. A GP partner described how the urgency left little room for planning or gradual implementation:

> “So by the time we'd done the other work that was associated with it, there wasn't much of a gap then to put those changes in place. So we had to do it quite quickly really to get the financial payment for it” (GP partner, Practice A)

Independent practices felt they were at a disadvantage in implementing the policy in comparison to practices run by health boards, as they had less access to resources and assistance. One practice pharmacist (practice F) explained that independent practices lack the backing of dedicated pharmacy teams available to health board-run practices, which can provide guidance and operational support. These pressures on time therefore limited GPs’ opportunity to implement the changes effectively.

6.4.2. Execution facilitators

Although participants cited several barriers to successful execution of the policy, practices highlighted several factors that supported smooth and effective implementation of extended prescribing intervals.

Practice or cluster pharmacists

Several practices highlighted the critical role of practice or cluster pharmacists in identifying suitable patients, conducting medication reviews and reducing prescribing errors. Their dedicated capacity facilitated faster and more effective adoption of the policy, as practice staff felt that pharmacists had the capacity to implement changes carefully and consistently. Some practices reported that allocating dedicated resources to make the change supported GPs’ impression of the policy, creating a positive feedback loop (see section 6.5.2)

PCCLs in one health board reported making use of their resources at cluster level to encourage uptake, with clusters pooling funds for a health-board wide project to support changes.

In addition to supporting implementation, practice staff described pharmacists and pharmacy technicians as essential to ensuring a focus on prescribing quality and processes

that could not be absorbed by existing staff. Their role allowed a more individualised and synchronised approach to medication management, with some practice staff noting more time to focus on the behavioural and procedural aspects of implementation. This allowed practices to make more strategic decisions such as aligning prescription dates and ensuring synchronisation; tasks they felt GPs might overlook due to time constraints. The additional attention helped address barriers like poor synchronisation and increased the likelihood of achieving the policy's intended benefits.

"Probably the biggest change has been having our pharmacist do most of the script queries. Because that's her job, she has more time to make sensible, time-saving decisions. A GP might update one item at the end of surgery and miss others due soon after, leading to multiple queries. But she'll look at the whole picture—bring everything into line, request all necessary tests, and make sure it's all synced." (GP partner, Practice A)

Having dedicated staff also fed back into motivations, with practice pharmacists reportedly acting as champions for change within practices. Their presence made it easier for practices to choose to implement the policy, as they provided the necessary capacity and expertise. This mirrors findings that pharmacists' role clarity can drive safety-oriented changes and spread good practice (Ishii et al., 2023; Smale et al., 2023).

Involving and training administrative teams

Involving administrative teams was an important part of the implementation process for some GP practices that successfully adopted the policy. Practices that trusted experienced administrative staff to adjust prescriptions for stable patients reported reduced pressure on clinicians and smoother implementation. One GP partner (Practice C) noted stable and experienced admin teams were particularly effective.

Practice staff also highlighted the value of training administrative teams to add or modify prescriptions. They focused on training about clinical boundaries, helping staff identify which patients they could switch independently, and which required medical input.

> "There's a couple of members of staff who we've trained to a high level, who can add or change [prescriptions]. So, if there's something like a TTO[2] has come in from hospital, they can do the changes and pass it over to a clinician to check." (Practice pharmacist, Practice F)

Practices that provided training and clearly defined roles across the team perceived having fewer errors and more consistent implementation. Staff understood their responsibilities, had awareness of the guidance and worked together to ensure accuracy.

Some pharmacies also trained staff to communicate effectively with patients. One community pharmacist described how their team developed a stock conversation script at the start of implementation so all staff could deliver a quick two-minute explanation to patients about the reasons behind the change. Staff who confidently explained the policy

[2] Refers to TTO, the abbreviation for the hospital discharge prescription 'To Take Out'.

and its rationale helped manage expectations and reduce confusion. This approach minimised medication waste, lowered call volumes, and reduced the need to correct errors.

Practice teams that actively involved and trained their administrative staff overcame key implementation barriers such as inconsistent communication, human error, and patient confusion. By building staff capability and confidence, they applied the policy more consistently and improved outcomes for both patients and the practice.

Collaboration between community pharmacies and GP practices

Effective implementation was supported by strong, open communication between GP practices and community pharmacies. Some practice staff interviewed emphasised the importance of maintaining good working relationships and coordinating efforts across teams when making changes to prescribing intervals.

> "I'd say a collaborative effort [is important]—GPs and community pharmacies working together. We're definitely on board with it. In terms of our side, we do help with the change, but I think it probably, on a concrete level, affects the community pharmacy and our prescribing teams more." (GP partner, Practice B)

Clear and open channels of communication helped both parties anticipate and manage potential barriers, such as stock management issues. When GP practices gave pharmacies early notice of planned changes, pharmacies could prepare accordingly, reducing disruption and supporting continuity of care. To strengthen collaboration further, a community pharmacist suggested involving practice managers in cluster meetings to foster more balanced, two-way communication and promote shared decision-making, rather than top-down implementation. The literature similarly highlights that collaboration and leadership enable implementation, while misaligned incentives can generate friction (Smale et al., 2023; Doble et al., 2017; Miani et al., 2017).

Implementing a standardised process

Several GP practices improved consistency and efficiency by developing internal procedures, templates and prompts to identify medications appropriate for extended prescribing intervals. Doing so reduced uncertainty among staff, improved communication with patients, and experienced more efficient workflows. One practice embedded a question into its medication review form asking whether patients wished to move to 56-day prescribing, creating a predictable framework:

> "It's mainly the pharmacist and the GPs that do the bulk of the reviews, and then it will be discussed. We have a template—so when the patient is due a medication review, before their birthday we send a text saying, 'You're using your last issue… please follow the link below.' There's a multiple-choice questionnaire, and one of the questions is: 'If possible, would you like to go to 56-day prescribing?' So, the patient is always asked this before their medication review. If they tick yes, it's discussed at the review. If they tick no, we'll usually ask, 'Is there any reason for this?' and go from there." (Reception manager, Practice B)

Standardisation helped staff reduce the likelihood of errors and improve the patient experience. It also supported clearer communication by providing a clear rationale for the change, which could be shared with patients in a standardised way. Standardisation can counter historic rigidities (e.g., 28- or 56-day pack norms) by providing explicit, shared decision rules (Davies and Taylor, 2013).

Guidance on patient inclusion and exclusion criteria

Several practices valued clear lists of medications suitable for extended prescribing intervals, which made eligibility decisions more efficient and helped prioritise patients for transition. One GP partner described how identifying appropriate medications without guidance was time-consuming and complex. However, once a list was provided, staff could focus their efforts more effectively with greater confidence. This also had a cascading effect, as changes to listed medications often led to adjustments in additional prescriptions for patients with more than one medication.

> "Having that list once we got it was really helpful, because that sort of identifies a group of drugs that you can then start to search on. Just thinking, 'Right, well, this drug would be suitable, that drug wouldn't be,' and building a search like that is really difficult. But if you can say, 'Here's a couple of dozen drugs included in the basket,' then we can change those, and it'll boost our payment—and it will obviously drag in all of the other medications those patients are on at the same time." (GP partner, Practice A)

Similarly, another practice (Practice B) developed a list of excluded patients, with staff across both of its sites contributing to the process. Blister pack patients were flagged on the system to prevent inappropriate changes. This enabled a safer and more targeted implementation of blanket changes to prescription lengths.

Some practices that hadn't developed set inclusion and exclusion criteria felt it would be greatly beneficial. Without such guidance, it was difficult to build effective searches or confidently identify appropriate candidates. Among these practices, there was a desire for more specific guidelines or pre-defined searches to structure policy implementation.

> "I suppose if there are feedback points that go higher up—yeah, if someone could generate just some clear guidelines or give us a bit of leeway to increase for controlled drugs in certain circumstances, that would be good. Then that gives people confidence to sort of sing from the same hymn sheet." (Practice Pharmacist, Practice M)

> "Is there just a suite of searches that can be prepared for the practices? Like, 'Here's everybody on thyroxine and nothing else,' or 'Here are the no-brainers." (Practice Pharmacist, Practice F)

Clear guidance with defined criteria and practical tools were therefore seen as important facilitators to overcoming implementation barriers. This would enable more consistent application of the policy, minimise errors and strengthen communication with patients. Practices felt that these improvements could contribute to better outcomes, including

enhanced patient experience and increased staff confidence in applying the policy appropriately.

Although practices found clear inclusion criteria helpful, they also described the benefit of using clinical judgement to assess patients from initially excluded groups on a case-by-case basis. This allowed for more nuanced decisions and increased patient inclusion, particularly for stable patients on long-term medications.

> "So, people who were very stable on antidepressants and have been for a long time. Initially we said, well, we're just going to exclude antidepressants from the list. But now we're kind of saying, well, let's do this on a case-by-case basis as we're reviewing. So, you know, if somebody's been on them for a month, you wouldn't put them on to a three-month prescription. But if they've been on them for four or five years and they're very well, then we're saying, well, yeah, let's have a chat. And if the patient's happy with that and we're happy with that, then we'll extend that one." (GP partner, Practice A)

Clear timeline for making the change

Some community pharmacists emphasised the need for clearer guidance on timelines and regional coordination to support more confident and equitable implementation of the policy. They reported that a lack of reliable guidance in this area created uncertainty and anxiety. This was especially regarding potential financial implications for pharmacists transitioning earlier than others.

"If we had a timeline that we knew that the whole of Wales was going to change within six months, I think the anxiety with contractors and pharmacists would be less. Speaking to colleagues, everyone agrees with and even supports a 56-day agenda. But what everyone is worried about is being the first to transition, because you could be losing income while colleagues in other parts of the country maintain their normal finances" (Community Pharmacist G).

This aligns with evidence in the literature that reimbursement structures can influence behaviours, predictable timelines and aligned incentives, reducing uncertainty and encouraging even adoption (af Geijerstam et al., 2024; Miani et al., 2017).

Implementing patient-led changes

Patient-led approaches were identified by both GPs and community pharmacies as a valuable facilitator for effective policy implementation. Communication with patients and promoting extended prescribing intervals as a flexible option was seen by several participants to support informed decision-making, improve medication adherence and tailor changes to individual needs. By offering choice and engaging patients in the decision-making process, practices were able to implement changes in a way that was more sustainable and aligned with individual circumstances. Although this approach took additional time and effort from practices, patients were perceived to be more likely to adhere to the prescribing schedule with this approach.

Some practice staff described how patient-led conversations enabled more flexible prescribing arrangements, even for individuals on controlled drugs. Patients were given the option to extend the duration of their non-controlled medications while maintaining shorter intervals for controlled substances. This allowed for a more personalised and manageable approach and allowed patients who might otherwise have been excluded under blanket criteria, such as those on controlled drugs, to benefit from extended prescribing intervals where medically appropriate. It also ensured the patient felt confident to manage the change. Prescribing was therefore tailored to individual needs, reducing the likelihood of patient confusion, synchronisation issues and safety concerns. This approach also supported sustainable implementation.

By engaging patients in decisions and offering tailored communication, some practices were able to implement the policy in a way that supported adherence, reduced confusion and dissatisfaction, and minimised the need for follow-up corrections. This patient-led model also allowed prescribing to be more individualised, matching changes with clinical appropriateness and patient preferences to enhance overall experience and outcomes.

Other stakeholders who had not taken a patient-led approach felt that this would have been beneficial. They thought it would support informed decision-making, improve medication adherence and reduce time spent addressing patient confusion. One community pharmacist highlighted that a key part of successfully changing prescribing intervals is “just about communication and educating the patients really” (Community Pharmacist, Practice F). Similarly, one practice manager highlighted the need to explicitly explain the changes to patients to avoid patient confusion.

> “I think an initial conversation with the patient needs to take place because otherwise we just change their prescription. They go to a pharmacy. They don't understand why they’ve been given two months’ worth […] it does probably necessitate a bit of a conversation and probably it’s part of a medication review, that’s probably ideal to have that conversation.” (Practice manager, Practice I)

One community pharmacist highlighted that it could be useful to increase awareness of the policy in GP and community pharmacy spaces. This emphasised the choice aspect for patients to encourage a personalised approach.

> “If we can work with surgeries and there can be more material introduced that we could perhaps use to publicise 56-day prescribing in pharmacies and let patients know that it’s a choice. I think we need to do more as community pharmacies and perhaps more as surgeries to make sure that during the consultations—and maybe have more information—[we’re] publicising the fact that it’s very much patient-led. Some patients it might help with compliance. Like I said, people that are struggling, time-pushed, or perhaps they’ve got difficulty with transport and they’re struggling to get to pharmacies—56-day prescribing might be ideal for those patients. But it’s making sure it’s not one-size-fits-all. We somehow tailor it to make sure it fits individual patient requirements and their compliance needs.” (Community Pharmacist B1)

Staff from another practice also suggested offering patients the option to directly request 56-day prescriptions, particularly through platforms like the NHS Wales app, where appropriate. They believed this would reduce confusion and improve patient satisfaction by giving individuals more control over their medication schedules. Patient-led approaches are consistent with evidence that longer intervals can improve adherence where appropriate, provided communication is clear (King et al., 2018).

System reminders

Some practices identified system-based reminders, such as notes in prescribing records and prompts within clinical systems, as helpful for effective policy implementation. One practice reported that adding instructions like “12-week supply” directly into prescribing notes helped show the intended duration to pharmacies, preventing unnecessary monthly prescription requests and reducing confusion.

In addition, another practice manager suggested that prompts within online prescribing systems could support prescribers in identifying eligible patients during medication reviews. Since many systems default to 28-day prescriptions, a reminder to consider 56-day intervals could help embed the policy more consistently into routine practice and address human error barriers.

> “Because 28 days is the standard, when you go to prescribe, 28 days is typically the standard number. It would be good if something prompted - ‘actually, you know you can do this for 56 days rather than 28’ - because it’s not in the periphery. In a consultation, they just go in with what they know, which historically has always been.” (Practice manager, Practice I)

These system level supports were seen to reduce errors, improve consistency and help embed the policy into everyday workflows, contributing to smoother implementation. These findings reflect evidence that aligning system prompts with policy aims helps counteract default effects that favour 28-day supplies (Mehta et al., 2025; MacKenna et al., 2025).

Changing patients gradually

Some practices interviewed felt that implementing changes gradually enabled effective uptake of the policy. This is because it allows teams to spread out the workload and prioritise patient safety over meeting targets or financial incentives. One partner noted that a phased approach would have helped reduce pressure and avoid the risks associated with batch changes.

> “We did a lot of the work in quite a short space of time. So you’d have like a bunch and then a quiet bit, and then a bunch and a quiet bit. And I think, if there’d perhaps been a bit less pressure in terms of the target, then we might have said, well, let’s do a third of it this month, a third next month, and a third the month after to just even that out.” (GP partner, Practice A)

Another practice manager cautioned against contractual requirements which would force practices to switch patients at scale. They suggested that a slower, incremental approach was safer and more appropriate.

> "I wouldn't want anything in a contract which sort of forces us to switch patients to 56-day prescribing. I think the process as it is—although it's quite slow and very incremental—is probably a lot better and a lot safer than maybe trying to stick an incentive on it by saying all practices need to switch a percentage of people." (Practice manager, Practice I)

This highlights the value of focusing on the careful and gradual implementation, rather than rushing to meet external targets or expectations. These practices felt that a gradual approach supported more thoughtful decision-making, reduced operational strain and improved outcomes. This was due to changes being introduced safely, sustainably, and in line with clinical judgement.

Prioritising medication synchronisation

Some practices identified medication synchronisation as an important facilitator for effective and sustainable implementation of the policy. For example, aligning prescribing intervals across a patient's medications when adding new items helped one practice reduce system inefficiencies and increase the benefits of the All Wales guidance. Their practice pharmacist explained how this approach maintained a more organised and predictable workflow when extending prescribing intervals.

The practice pharmacist also noted there are key moments within the prescription journey where synchronisation can be prioritised and embedded into routine prescribing behaviours. These include medication reviews and when prescribers add new medication items. By doing so, practices can reduce unnecessary queries, improve patient experience and maintain a more efficient and coordinated system over time.

6.5. Outcomes and feedback

The Integrated Model distinguishes two elements of the outcome of a behavioural process. The first is the behaviour itself (in this case, the process of reviewing patient prescribing intervals) and the second is the impact of the behaviour (in this case, the intended impact is longer average prescription lengths). As well as clearly being crucial, both elements of the outcome can feedback into motivations and choices and influence future behaviour. This is particularly important for the current policy, as it cannot be implemented in a single step but relies on repeated processes.

6.5.1. Outcome barriers and negative feedback

This section discusses negative effects on GPs and GP practices, community pharmacists and patients. The negative effects on GPs and GP practices self-evidently contributed to a negative feedback loop, whereas those on community pharmacists and patients did not necessarily do so. The research team did find instances where negative effects on the latter groups were explicitly recognised by GPs, but this section includes the full range of negative effects on those groups that were identified on the basis they are likely to be fed back to GPs in one way or another, even if GPs did not explicitly report it as part of this study. In addition, given the importance of the issues and potential health implications, the research team felt it was important to record the evidence of all negative impacts.

Synchronisation issues for GP practices

GP practices reported that in some cases changing the prescribing intervals for patients led to synchronisation issues that created additional work. This was particularly when patients were prescribed a mix of 28-day and 56-day medications or when new treatments were introduced mid-cycle. These mismatches required staff to reissue, adjust, or resynchronise prescriptions, often outside of routine review periods. Treatment adjustments and new medications were cited as a particular source of disruption. Practice staff described how synchronisation was affected when medication regimens changed due to emerging health needs or side effects. According to one practice manager, these changes created a "chain of actions that then need to be undertaken" to be resynchronise prescriptions (practice manager, Practice I).

> "The drawbacks, maybe if they are unwell and they do have to change their medication halfway through and we've already done 2 months and all that's going to be redone again." (Prescription clerk, practice G)

Synchronisation was found to be particularly difficult for patients on multiple medications. Certain medicines, such as controlled drugs or those requiring titration, are not suitable for 56-day prescribing. As one community pharmacist explained, this can lead to patients receiving some medications at two-month intervals and others monthly, creating confusion and making it difficult for practices to align a patient's regiment effectively.

Approaches to adding new medications also varied between and within practices. Some prescribers waited to include new items as repeats to maintain synchronisation, while others added them immediately for convenience. This inconsistency contributed to further misalignment across medication cycles.

Some prescribers believed these challenges undermined the feasibility of implementing streamlined 56-day cycles for poly-medicated patients and increased the risk of waste if medications were changed mid-cycle.

> "The system is less responsive to changes in patients' medication. [...] It's twice as much waste as it would have been if you'd only given them 28 days." (Community Pharmacist I)

This meant practice staff felt they spent more time and resources managing medication cycles as a result of implementing the policy rather than it representing a time saving.

Some practices addressed these issues by implementing careful inclusion/exclusion criteria, patient-led approaches and careful clinical judgement when changing prescription lengths, detailed in section 6.4.2. These approaches meant prescribing intervals were only changed for stable patients who are less likely to require medication changes. These synchronisation challenges are cited as a practical risk factor for wastage when medicines change mid-cycle, especially for complex regimens (Doble et al., 2017).

Synchronisation issues for patients

Community pharmacists, GP practice staff, PCCLs and patients reported that in some cases changes to prescribing intervals had resulted in prescription synchronisation issues which increased patient confusion in managing their medicines. In some cases, patients were unaware they had been moved to longer prescribing intervals at all, which increased their confusion about their prescribing schedule and led to errors in medication orders. One practice reported a noticeable increase in patients ordering prescriptions significantly earlier than appropriate, which led to a high volume of rejected requests. They thought this was likely due to a miscommunication at the chemist about extended prescription lengths which was creating patient confusion, leading to mistaken ordering.

Some patients experienced difficulty keeping track of their medication quantities and expected supplies, which in turn reduced their ability to manage their medications properly. Issues included accidentally losing, forgetting or unexpectedly running out of medication when patients lost track of their schedule. One reception manager described how some patients thought the pharmacy was holding incorrect medication, when the patient had lost track of their schedule and the medication waiting for them was from earlier in the month, before they had changed medications. The reception manager described how this confusion created more work for patients and discouraged them from seeking increased prescribing intervals.

> “Most people [patients] at the start were like, ‘Yeah. Amazing. I've only got to go to the pharmacy once every other month, this is much easier’. Until this changes, and then they want to know why the wrong medication is in the pharmacy. It’s not wrong—it’s just that that one’s been up there for two weeks ready for you to collect, then halfway through the cycle you’ve changed. So this is when they’re saying, ‘Oh, I don’t want 56 no more, I’ll go back.” (Reception manager, Practice B)

Similarly, a community pharmacist highlighted that patients sometimes had to make “three or four different trips to the pharmacy” when their medications were not synchronised, which caused them to become confused about their more complex prescription schedule (Community Pharmacist G). Another community pharmacist explained how a patients could have a mixture of when-required, 28-day and 56-day prescriptions which would cause them to be “forever back and forth because they’ve run out of medicines because they can’t remember where they are in the cycle” (Community Pharmacist A). This was echoed by a patient, who reported that their biggest issue with their prescription schedule was the excessive time spent queuing at the pharmacy. They explained that although there had been an attempt to synchronise their 3 prescriptions for collection, this was not sustained and has resulted in repeated, time-consuming trips to the pharmacy. These long waits also discouraged them from using the pharmacy for other clinical services, such as minor ailment consultations.

A reception manager also reported that this issue was exacerbated when patients from the same household were placed on different prescribing cycles. They described how the lack of synchronisation at both an individual and household level was complicated over the extended period. This issue contributed to patient frustration and increased administrative

burden for practices, particularly for patients coordinating prescriptions across family members.

These issues with confusion and repeated journeys to the pharmacy therefore created frustration for some patients, thereby reducing patient's willingness to adhere to extended prescribing schedules and potentially influencing prescribers' decision-making. Respondents to the supplementary survey highlighted the importance of patient-centred implementation, ideally integrated into existing processes such as medication reviews and supported by clear communication. Suggested approaches for doing so included targeting patients with stable conditions and fewer medications, allocating clinical time, using text messages and developing patient lists.

Prescription synchronisation challenges for community pharmacies

Community pharmacists reported that prescription synchronisation issues created additional workload and operational strain. Misaligned prescriptions, such as patients receiving a mix of 28-day and 56-day medications or prescriptions due at different times, led to patient confusion. This increased the volume of phone calls and in-person queries for some community pharmacies. Pharmacists described spending more time clarifying medication schedules and helping patients manage their supplies. One community pharmacist reported an increase in patient support demands since extending prescribing intervals, describing how they now spend more time on phone calls and assisting dispensary staff to help patients manage their tablet supplies effectively.

These challenges were believed to be particularly pronounced for patients on complex regimens, where synchronisation was difficult to maintain. Certain medications, such as newly initiated treatments or those unsuitable for extended intervals, disrupted alignment and created logistical difficulties. Both practice and pharmacy staff described how new medications often needed to be trialled in 28-day intervals to see how patients reacted. However, this created mismatches between the existent 56-day prescriptions and new 28-day prescriptions which were difficult to align. One community pharmacist highlighted how this mismatch reduced time-saving benefits of the All Wales guidance, as patients still had to request prescriptions and visit the pharmacy at 28-day intervals between their normal 56-day schedule.

Pharmacists also noted that a lack of communication with GP practices compounded these issues. Changes mid-cycle were not always shared, leading to mismatches and incorrect dispensing.

> "It's also making sure that you're having contact with the pharmacy to make sure that they're not issuing the wrong medication because changes have been switched mid cycle over 56 and then it's trying to issue other medication to sync 56-day cycles." (Reception manager, Practice B)

These synchronisation challenges led to inefficiencies in the prescribing and dispensing process, increased the risk of errors, and placed additional demands on pharmacy teams. This also contributed to further difficulties, such as patient confusion increased waste and conflict between GPs and community pharmacies (see section 6.4.1).

Stock management and storage challenges for community pharmacies

Stock management and storage challenges emerged as significant issues for community pharmacists following the shift to dispensing larger quantities of medication less frequently. Community pharmacy respondents to the supplementary questionnaire raised concerns about financial risk, stock costs and safety. Community pharmacy staff interviewed reported varied challenges; changes to dispensing patterns led to fluctuations in inventory, with periods of excess stock requiring additional storage space, followed by periods of low inventory and underutilisation. Estimating stock requirements during early policy implementation was particularly difficult and uncertainty regarding potential supply disruptions undermined community pharmacists' confidence in the policy and complicated its smooth rollout.

These challenges are further complicated by quotas on certain medications, which restrict how much stock can be ordered within a given period. One pharmacist explained that if several patients request two months' worth of medication at the same time, the quota can be quickly exhausted. This creates a risk of running out of stock for subsequent patients and makes it difficult to maintain adequate supplies for extended periods

Limited physical space in pharmacies worsened these difficulties. They increased operational strain and the time required for inventory management. One community pharmacist said that "it has caused issues with space, because certain weeks even, you'll be overrun with bags and stock, and then you'll have other weeks where your shelves are half empty" (Community Pharmacist F).

The additional time spent on stock management was also viewed as an issue by community pharmacists. One community pharmacist described their time spent ordering this additional stock as "dead time" as it did not benefit the pharmacy or improve patient care (Community Pharmacist A).

Loss of income for community pharmacies

Loss of income was identified by some community pharmacists as an important issue following the adoption of extended prescribing intervals by GP practices. Community pharmacists receive a fixed fee for each individual item they dispense. When prescribing intervals are increased, community pharmacists dispense items less frequently which leads to a decrease in their dispensing fee revenues. Pharmacists also reported they did not experience significant time saving from the changes. Instead, they found their workload largely unchanged and as a result felt intensified financial pressures and increased stress from the loss of dispensing fees.

> "We've struggled a lot with funding at the moment. Whereas we used to see a fee per item. Now, with 56 days we see less fees. So we're effectively doing the same work for less. It's not saved us any extra time and it's just that extra financial burden and it just adds stress to what's already quite a beleaguered sort of profession at the moment, I think we're all really struggling." (Community Pharmacist B1)

Compensation mechanisms were introduced to offset losses in dispensing fees when pharmacies experienced a reduction of more than 7% in items dispensed. However, some

community pharmacists found these mechanisms ineffective. One explained that although they experienced a reduction in dispensed items when certain medications moved to 56-day cycles, they also experienced an increase in prescribing for other medications which increased dispensed items. This left the total number of items being dispensed at the pharmacy largely unchanged, meaning they did not receive compensation. The pharmacist described how this left them "equivalently doing 15k items worth of work and being paid 10k with having no mechanism to be able to reclaim that money" (Community Pharmacist G).

The pharmacist further explained that they were initially told that community pharmacies would be paid more money for items being dispensed.

> "We were told in the first meeting that the theory, if you took Wales on the whole and there was a million prescriptions being dispensed at the moment and the funding for that would say £1,000,000, we would go down to say 750,000 prescriptions being dispensed. The funding would stay at £1,000,000 and therefore per item you'd be paid more money so you wouldn't lose any money by having people switch over to 56-day prescribing." (Community Pharmacist G)

However, item fees stayed the same for them which they felt was "completely unacceptable". This view was reflected by another pharmacist, who described how their colleagues are "not confident in the mechanisms behind the compensation" (Community Pharmacist G.

Furthermore, some pharmacists highlighted that purchasing more stock for extended prescribing intervals resulted in slower turnover and limited their ability to realise margins. For example, a change in prescribing interval from 28-days to 56-days requires the pharmacy to hold 56 rather than 28 days' worth of stock at one time. This stock then sits on the shelf for 56 days between dispensing, rather than 28. Some pharmacists detailed how this has reduced their ability to meet profitability margins.

> "We can't maintain stockholding either. You know, if we've got 56-day prescribing the expectation is that we hold 56-days' worth of stock then. Well, that's double what we used to do. The turnover of stock is slower. The stock sits on the shelf a lot longer and we then obviously can't realise margins because we've just got all of our money tied up in stock that's just sitting on the shelf waiting for prescriptions to come through." (Community Pharmacist D)

In addition, some pharmacies reported that compensation did not account for losses in other revenue streams. For example, over-the-counter sales and NHS services, which were affected by reduced footfall. One community pharmacist highlighted how an increase in prescription length has meant they are "financially affected in ways that aren't just prescription items." (Community Pharmacist F)

Some pharmacists believed the uneven adoption of the policy across Wales had exacerbated these financial barriers, creating disparities between pharmacies. Pharmacies that adopted the change early felt penalised compared to those still operating on 28-day cycles.

> “We've seen some pharmacy chat groups and there's some people saying, ‘we've gone to 56 days, we've lost all this income and everyone else is still on 28 days’. They feel that they've been unfairly disadvantaged by being proactive.” (Community Pharmacist H)

Increased waste

Some community pharmacists reported an increase in medication waste following the move to extend prescribing intervals. They found that some patients were having difficulty managing the larger volumes of dispensed items, which exacerbated issues with patient confusion. Some patients, particularly those on multiple medications, struggled to organise their increased supply of medication. This led to more misplaced items and unnecessary duplication, increasing medication waste.

> “If patients have about five or six medications and they get two boxes of each, a lot of the time they will lose one box of one medication. So they’ll say ‘I’ve lost an atorvastatin,’ ‘I’ve lost a ramipril.’ We know it’s gone in the bag. It’s just that they have misplaced it.” (Community Pharmacist B2)

In other cases, patients opened multiple packs of the same medication simultaneously, becoming confused about dosage and duration. One pharmacist described how patients on extended prescribing intervals were given two packs of the same medication, rather than one, and would then open both packs simultaneously and “get in a terrible muddle then with how many packets they’ve got to go” (Community Pharmacist, B1). This led to an increase in waste, as the confused patients were more likely to forget or lose their medication.

Conflict between GP practices and community pharmacies

Some community pharmacies reported increased tension with GP practices following the implementation of the updated All Wales Guidance. These conflicts were believed to be rooted in differing perspectives on patient safety and policy priorities. One community pharmacist felt their concerns about the clinical appropriateness of extended intervals were not acknowledged, noting that even when they raised specific cases where extended prescribing was unsuitable or suggested shorter intervals for patient safety, their input was often disregarded. In contrast, the pharmacist described how the GP perceived the pharmacy to be resistant to the approach encouraged by the Welsh Government. In this case, the breakdown in communication escalated to formal action. The community pharmacy initiated a risk assessment, and the GP practice subsequently raised a complaint to the health board.

Other pharmacists described how past attempts to engage with GP practices had little impact, leading to reduced communication over time.

> “We rarely communicate with the surgery now, as past interactions had little impact on prescriptions, discouraging us from reaching out.” (Community Pharmacist C)

Some of these issues appeared to resolve over time, as community pharmacies and GPs adjusted to the changes. However, for some the absence of effective feedback loops between pharmacies and practices contributed to ongoing frustration and misalignment.

Patient safety concerns

Some community pharmacists reported instances where they believed the policy had been incorrectly implemented, with GP practices extending prescription durations for patients the pharmacy considered medically unsuitable. These included individuals prescribed controlled drugs or those perceived to be mismanaging their medication or at risk of overdose.

One pharmacist expressed concern that certain medications were being unsafely stockpiled or diverted and should therefore be managed with shorter prescribing intervals. However, they felt that GPs were overlooking these risks to reduce their workload. The pharmacist also raised concern around patients using blister packs, who are typically the most vulnerable, accessing increased quantities of medications. They perceived that for some individuals this could contribute to an increased risk of overdose, addiction and mismanagement. When the pharmacist raised these safety concerns, they felt they had "not been addressed and frankly been ignored" by the practice. The pharmacist felt the practice's decisions were therefore driven more by financial incentives than clinical appropriateness. They felt the practice had implemented the change rapidly and focused on extending durations "because they're mandated to do it and that they get funding for it" rather than prioritising what is appropriate for the patient (Community Pharmacist D).

Issues with medication management and stockpiling were also reported by a patient during an interview. They felt that these issues weren't closely monitored by clinical staff and were aware of cases where large quantities of strong medication had been found in people's homes after they had died.

Similarly, a practice pharmacist noted that GP awareness of best practices for prescribing controlled drugs did not always align with pharmacy standards. They felt that "GPs don't have the same awareness of what is a controlled drug and what isn't", which resulted in GPs extending some medications, such as gabapentin or pregabalin, which the pharmacist considered to be bad practice (practice pharmacist, Practice M). Balanced against these risks, several studies suggest that when appropriately targeted and communicated, longer intervals can improve adherence and patient convenience (King et al., 2018; af Geijerstam et al., 2024).

6.5.2. Outcome facilitators and positive feedback

This section discusses positive effects on GPs and GP practices, community pharmacies and patients. While negative outcomes and barriers created important constraints on the implementation of extended prescribing intervals, the research also identified clear positive outcomes that, in several settings, produced self-reinforcing feedback loops. These feedback loops arose where early positive experience strengthened staff motivation, encouraged continued adoption and helped normalise extended prescribing intervals as part of routine prescribing practices.

Reduced workload and improved efficiency for GP practices

GP practices that had implemented extended prescribing intervals at scale reported notable reductions in day-to-day workload. Where GP practices identified benefits from extending prescribing intervals this established a positive feedback loop, strengthening the link

between positive effect and behaviour change. These benefits included fewer repeat prescription requests, reduced footfall, and lower administrative burden. One GP partner described this as a clear benefit:

> "It's reduced footfall, it's reduced workload, it's reduced repeats that come to the front desk that have to be actioned by reception to print off, and then it's less for me to sign at the end of the day. It makes perfect sense, especially if they're stable, chronic disease stuff." (GP partner, Practice L)

Another GP practice had been eager to introduce the policy, anticipating benefits in both reduced workload and improved patient convenience. The prescription clerk explained that allocating dedicated pharmacist time to implement extended prescribing intervals streamlined the process, freeing up practice staff to concentrate on more complex tasks.

> "It's kind of reduced some of our workload, so then we can free ourselves up to then go on to reception work…and then we can focus more on our tasks that come back from some of the queries." (Prescription clerk, Practice A)

Patient-led and individualised approaches

Practice-level experiences showed that patients' support for extended prescribing intervals played an important role in communicating back to GP practices that the change is beneficial and appropriate. When GP practices introduced extended intervals in ways that aligned with patients' needs, this often resulted in positive experiences. While Practice B reported difficulties when changes were made mid-cycle, they also noted that stable patients with minimal medication changes tended to be satisfied with longer intervals.

> "The ones that have settled on it, you know, they're happy on it, where their medication is like, you know, shouldn't be many changes to it now and they're settled and they're really happy that it's 56 and they haven't got to go [as often to the pharmacy]" (reception manager, Practice B)

As noted in section 6.4.2, health board staff reported that GPs were more likely to make the change when patients themselves requested extended intervals. This was supported by patient testimony describing the convenience of fewer pharmacy visits. This reflected a GP partner's (Practice L) view that the decision "has to be in the patient's hands", and that proactive engagement from patients would help busy clinicians to identify and prioritise changes to their prescribing intervals.

These findings indicate a reinforcing loop: the more patients perceive extended prescribing intervals to be beneficial and ask for them, the more willing prescribers may be to extend intervals for other suitable patients.

Sustainable changes made through embedded processes

GP practices reported that their efforts to extend prescribing intervals improved their processes, including through resulting in more proactive synchronisation, enhanced accuracy and oversight from practice or cluster pharmacists.

As noted in section 6.4.2, practice and cluster pharmacists played a prominent role in enabling and sustaining the policy. Their dedicated capacity for medication reviews, synchronisation and reducing errors generated visible improvements that, in turn, prompted other staff to adopt similar practices. Several practices highlighted the critical role of practice or cluster pharmacist in identifying suitable patients, conducting medication reviews and reducing prescribing errors. Their dedicated capacity facilitated faster and more effective adoption of the policy, as practice staff felt that pharmacists had the capacity to implement changes carefully and consistently. Some practices reported "ripple effects", where upon seeing updated records, GPs were reminded of the policy and prompted to apply it more broadly.

> "It's an endorsement of clusters hiring pharmacists, because we've probably been the driving force of the change in our cluster, at least through medication reviews. If there wasn't this input, it would probably have gone to the wayside a little bit. There are ripple effects—when GPs go into a patient's record and see changes, it reminds them that this is now the new default. Without pharmacist input, these things might be forgotten." (Practice pharmacist, Practice M)

Similarly, where practice pharmacists provided training and guidance to administrative staff to make the change, this increased their confidence and capability to make changes, contributing to their motivation and choices to make changes where this fell within their responsibilities.

Embedded processes identified in the research that supported positive outcomes included a standardised medication review questionnaire that incorporated a question about 56-day prescribing, leading to more consistent and systematic changes (Practice B). A community pharmacy also noted that introduced consistent two-minute scripts explaining the rationale for patients, reducing queries, errors and waste (Community Pharmacy A, see section 6.4.2).

<u>Positive experiences of collaboration between GP practices and pharmacies</u>

Positive experiences of collaboration and open communication between GP practices and community pharmacies was identified as an important outcome of extending prescribing intervals, with clear benefits that fed back into teams' willingness to continue implementing the change. In settings where communication channels were strong and relationships were built on trust; both parties were able to plan more effectively and minimise operational disruption that strengthened motivation to continue implementation. Where practices provided early notice of changes, or where there were established and trusting relationships, pharmacies were able to adjust stock, reduce disruption and offer clear messages to patients.

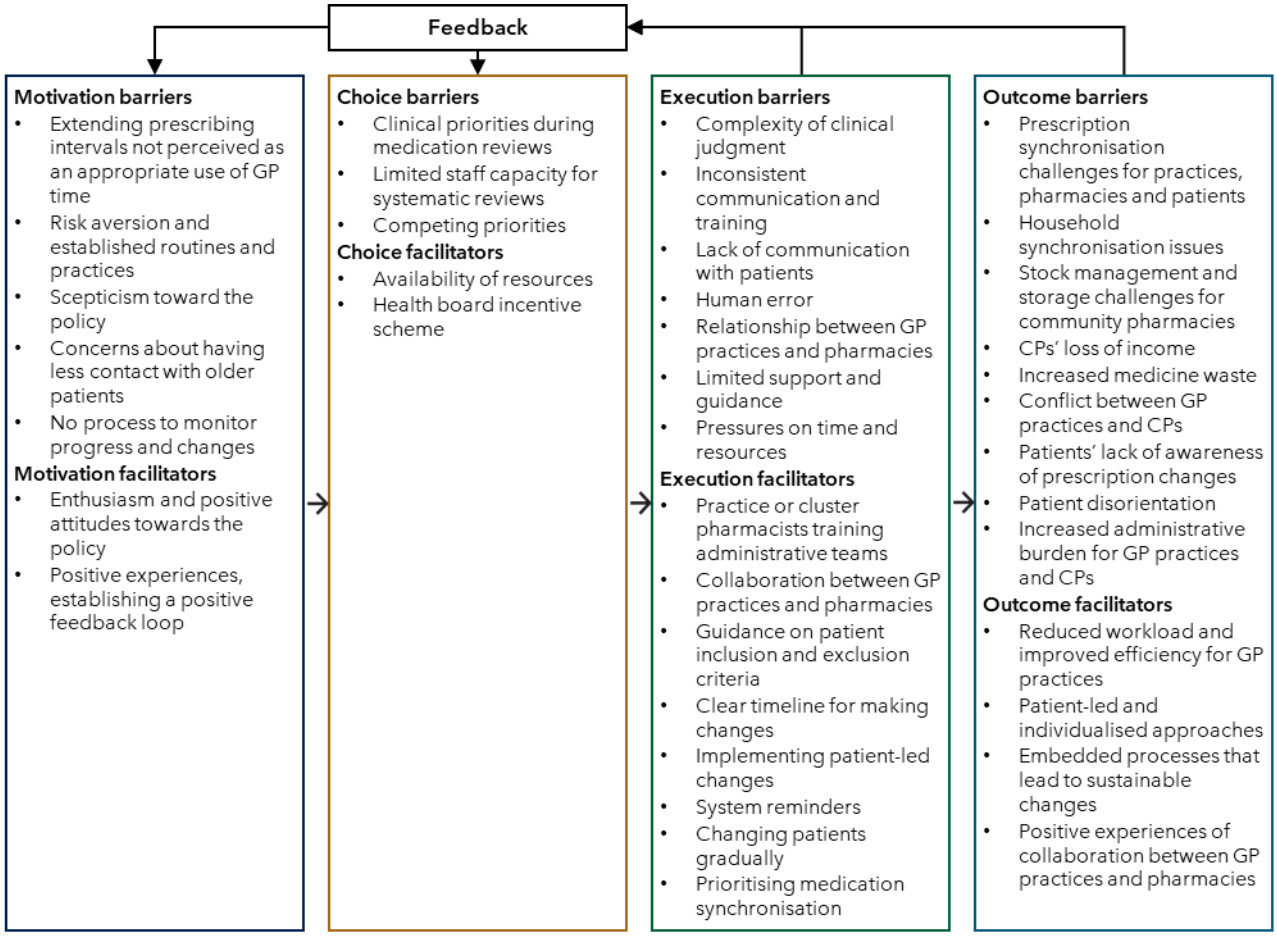
These collaborative dynamics produced conditions where positive outcomes were more visible, which in turn encouraged practices to continue with or expand their use of extended intervals. In effect, collaboration helped convert initial positive experiences into stable, reinforcing patterns of behaviour.

> “If all the practices are doing that, I think more pharmacies would be on board because they think everyone is going in at the same time.” (Community Pharmacist A)

These experiences were echoed by another community pharmacist, who described how strong relationships with local practices had directly supported the implementation of extended intervals. This was facilitated through cluster meetings and shared planning, encouraged by a cluster scheme that rewarded pharmacies and practices for developing joint plans for extending prescribing intervals. They noted that reviewing prescribing interval data for different practices during these meetings helped them monitor progress and identify areas where community pharmacies within the cluster could offer support. This indicates a positive feedback loop, in which the outcomes and emerging evidence from extended intervals strengthened collaboration and helped direct attention and support toward further implementation.

Figure 8 presents a high-level summary of the barriers and facilitators discussed in this chapter, drawing together the key themes identified in the research.

Figure 8: Barriers and facilitators mapped against the Integrated Model



Description of Figure 8: A four-column infographic summarising barriers and facilitators to implementing extended prescribing intervals across the Integrated Model elements. Motivation barriers include GP priority, concerns about waste and lack of monitoring, while facilitators include enthusiasm and positive experiences. Choice barriers include clinical priorities and limited capacity, while available resources and incentives are facilitators. Execution barriers include complex clinical judgment, communication issues, human error, while facilitators include support from pharmacists, training, collaboration, standardised processes and patient-led approaches. Outcome barriers include synchronisation issues, stock challenges, income loss for pharmacies, increased waste, patient confusion and higher administrative burden, while facilitators include reduced workload, patient-led approaches, embedded processes and improved collaboration.

7. Case studies

7.1. Chapter summary

This chapter presents case studies illustrating the varied approaches and experiences of primary care stakeholders in implementing extended prescribing intervals. A high-level summary is set out below.

Role of practice pharmacists

In **Practice F**, success was driven by a motivated and trusted practice pharmacist who led a systematic and safe extension of prescribing intervals. Their clinical leadership, clinical system searches and collaboration with staff enabled smooth implementation. The process reduced workload and was well-received by patients. The case highlights practice pharmacists' pivotal role in medicines management and the need for dedicated synchronisation tools.

In **Practice M**, gradual, patient-centred changes were introduced through routine medication reviews by cluster pharmacists. The approach was effective but relied heavily on pharmacist expertise and informal collaboration. The need for clearer, practical guidance was noted.

Implementation without dedicated pharmacy teams

Practice C, a smaller practice without a pharmacy team, extended intervals using experienced administrative staff and strong patient relationships. A phased approach avoided overwhelming staff and allowed careful review. Success depended on clear guidance, ongoing education and alignment of medication pack sizes.

Health board involvement

In **Practice A**, rapid implementation (up to 84 days) was prompted by health board targets and financial incentives. While beneficial, the lack of clear guidance created operational complexities and confusion about eligibility.

One health board provided hands-on technical support through pharmacy technicians. Engagement varied and barriers included limited capacity and lack of clear guidance. More evidence and "good news stories" were needed to build momentum.

In **Practice L**, limited health board support led to slow, inconsistent uptake. Motivation varied among clinicians, and the absence of incentives or concise guidance hindered systematic change.

Patient-centred approaches

Practice B used digital tools to engage patients systematically, using text messages and online forms during annual reviews. This normalised extended intervals and reduced administrative burden.

Practice J, a smaller practice, prioritised direct communication and proactive synchronisation, using every patient interaction to explain changes. Success was supported by regular searches for unsynchronised prescriptions and collaboration with local pharmacies.

Community pharmacy involvement

Community Pharmacists B1 and B2 often had to explain changes to patients, leading to confusion, increased workload and safety concerns. They emphasised the need for better communication and training for prescribers and patients.

Another health board encouraged GP-pharmacy collaboration through incentives and action plans. However, early adopters felt financially disadvantaged and meaningful change was seen as requiring integration into broader contracts.

For **Community Pharmacist G**, divergent approaches across practices created operational challenges, including stock management and patient confusion. Misinterpretation of guidance and poor synchronisation undermined intended benefits, highlighting the need for consistent communication.

7.2. Role of practice pharmacists

The involvement of practice pharmacists has been instrumental in enabling GP practices to review and extend prescribing intervals at practice, cluster or health board level. The following case studies illustrate how pharmacist support influences the implementation process and its outcomes, including an example of a practice that introduced changes without dedicated pharmacy staff.

7.2.1. Case study 1: A motivated and trusted practice pharmacist created the capacity and drive to extend prescribing intervals safely and systematically in Practice F

Practice F is a medium-sized practice serving a mixed urban/rural population. The transition to extended prescribing intervals was led by the practice pharmacist and supported by a collaborative and trusting team. The practice began extending intervals before the updated All Wales guidance was introduced in 2022, aiming to reduce the workload associated with repeat prescriptions.

Extended intervals replaced previous arrangements, which had previously raised safety concerns. While helping to manage demand, the practice pharmacist became concerned that some community pharmacies were not implementing changes safely when batch prescriptions were withdrawn or modified mid-cycle. The practice pharmacist perceived that temporary staff in community pharmacies with limited capacity would not know patients and be able to identify and address safety concerns when they arose, reducing their confidence in the system:

> “We’ve completely stopped [batch prescribing], simply because the pharmacies didn’t have a manager, didn’t have processes…there was too much patient risk.” (Practice pharmacist, Practice F)

Prescribing intervals were extended incrementally and changed systematically. The practice pharmacy team first identified clinically suitable patients through EMIS searches and spreadsheets, with clerks updating intervals for those not on controlled drugs. Training helped reception staff check synchronisation and flag potential changes, which streamlined the process and eased pressure. The practice manager highlighted the pharmacist's pivotal role, noting that GPs often lacked capacity to prioritise medicines management (see related discussion in section 6.4.2):

> "I don't think a lot of practices have clinical pharmacists, but we don't know where we'd be without [the practice pharmacist]." (Practice manager, Practice F)

Implementation was smooth, supported by collaborative staff, a trainee pharmacist and GP buy-in. Patients were not routinely informed when intervals were extended, but most responded positively. The pharmacist noted that a dedicated tool for managing synchronisation would be helpful, especially as GPs and locum GPs often needed reminders about the practice's policy. The experience illustrates that clinical leadership, particularly from a practice pharmacist, can create the capacity and confidence to implement extended prescribing intervals safely and systematically.

7.2.2. Case study 2: Introducing extended prescribing intervals through routine medication reviews helped Practice M ensure patient safety and engagement

Practice M is a large organisation serving a predominantly urban population. The practice employed a practice pharmacist who previously worked as a local cluster pharmacist, where they supported the introduction of extended prescribing intervals. The case study describes the approach when the practice pharmacist worked as a local cluster pharmacist.

The practice adopted a gradual, patient-centred approach to reviewing prescribing intervals, facilitated by cluster pharmacists who regularly visited to conduct medication reviews. During these reviews, they would review prescribing intervals with patients where clinically appropriate. Without a practice pharmacist or prescription clerk at the time, the practice pharmacist felt the practice lacked the capacity to introduce changes more rapidly. Most practices in the cluster area followed a similar approach.

The practice pharmacist noted the change was relatively straightforward, as changes could be made quickly in Vision, the practice's electronic health record system. Administrative staff processed fewer paper scripts, reducing daily workload. Most patients were transitioned to extended prescribing intervals for non-controlled drugs, with most responding positively. Where synchronisation issues arose, pharmacists explained the rationale during medication reviews and offered to synchronise prescriptions where possible.

The practice pharmacist believed their role was crucial for maintaining extended prescribing intervals. They ensured synchronisation and corrected inconsistencies when GPs prescribed new medications, highlighting that GPs often lacked the detailed view and time to manage prescriptions consistently. The process relied heavily on the pharmacist's professional judgement and informal cluster collaboration. The pharmacist expressed a need for clearer guidance and support more complex decisions:

> “I can’t say I’ve ever come across a sort of set of documents saying – do exactly this, except for these circumstances. It’s just been more, just like logic, as we’ve been going through, these people should just be on 56, these ones shouldn’t, yeah. And that seems to be how the GPs have done it as well.” (Practice pharmacist, Practice M)

This case demonstrates that gradual implementation through medication reviews can be safe and effective, but long-term success depends on pharmacy expertise and clear, practical guidance for complex cases.

7.2.3. Case study 3: A small patient population and well supported staff enabled Practice C to extend prescribing intervals without a dedicated pharmacy team

Practice C is a smaller practice serving a stable and well-known population. Administrative staff extended prescribing intervals over a two- to three-month period, without a practice pharmacist, pharmacy technician or prescription clerk.

A GP partner reported the practice’s size and long-standing relationship with patients meant the administrative team had the knowledge and capability to review prescribing intervals. Patients on stable medication were switched by administrative staff, which enabled GPs to review more complex cases. The GP partner felt administrative staff were well-trained and confident to make changes in ways that other practices may not have been.

> “We took two of our most senior admins... and they go through those prescriptions and amend them to 56 days. The doctor would have a quick review if there were any that they weren't sure of, but they knew which ones that we've given instruction that repeat stable patients could just be amended…I think that will be more difficult in practices where the admin team isn't as experienced or as stable or where the population is quite migratory.” (GP partner, Practice C)

The GP partner noted the phased approach worked well as it avoided overwhelming staff and allowed for careful review, while making the change systematically. The changes led to reduced administrative and clinician time spent on repeat prescriptions, which was further streamlined by EPS. Some patients continued to request prescriptions early, sometimes due to pharmacy practices or misunderstanding the new intervals. The GP partner noted activities that would support them to maintain extended prescribing intervals, including:

- guidance as to “who you can use within your practice team” to make the change, and tailored guidance and support for admin and prescribing support staff
- ongoing education to help patients understand when to request prescriptions, building on the communications they published at the practice and on social media
- aligning medication pack sizes to simplify calculations and reduce confusion, such as from 28 to 30 days
- addressing inconsistencies in repeat prescribing intervals issued by hospitals, to reduce the confusion and workload involved in aligning intervals

This experience highlights how a small and skilled practice team can successfully implement extended prescribing intervals without a dedicated pharmacy team, provided there is clear guidance, consistent communication and alignment within electronic health record software to sustain the change.

7.3. Health board involvement

The role of health boards in shaping the implementation of extended prescribing intervals across Wales has varied from hands-on technical assistance to minimal involvement. The following case studies illustrate how health board leadership, resources, and communication can affect the pace and consistency of efforts to review prescribing intervals at the practice level.

7.3.1. Case study 4: Health board targets prompted Practice A to implement extended prescribing intervals rapidly, in some cases up to 84 days.

Practice A is a large organisation serving a population with substantial numbers of older individuals, care home residents and patients on long-term or controlled medications. The practice implemented extended prescribing intervals in a short period, with a target of 84-days where clinically appropriate, supported by motivated senior leaders and appealing health board targets.

Although practice leadership supported the updated All Wales guidance on prescribing intervals, health board targets for extending prescribing intervals catalysed the decision to prioritise the change. A GP partner highlighted that while extending prescribing intervals was beneficial for patients, the associated payments made the work more attractive and justified the initial investment of time and effort.

> “While it’s a good thing for patients, clearly there was a payment involved for hitting targets for it as well… it made it more attractive as a bit of work to do.” (GP partner, Practice A)

The practice transitioned patients on stable medication to 84-day (three-month) prescriptions where judged clinically appropriate, to maximise the benefits. Staff reported fewer scripts to sign, reduced patient queries, improved coding and better morale. Patients were reported to appreciate the predictability and convenience, particularly during holiday periods.

Despite these benefits, changing most patients to three-month prescribing intervals introduced operational complexities. Without system-level synchronisation tools, discrepancies between individuals’ prescription cycles became common, leading to patient confusion. Staff were concerned there was a greater chance of wastage and safety concerns when medication was changed or withdrawn shortly into a three-month cycle.

Health board targets were instrumental in catalysing the initial rollout, but a lack of clear guidance and operational support from the health board created challenges. Staff reported confusion around which patients were eligible for extended intervals, as the relevant drug list was not proactively shared and staff had to locate it independently through other

sources. The lack of clarity placed additional pressure on staff to interpret and apply the guidance themselves, requiring them to make cautious, case-by-case decisions.

While the practice's efforts to implement extended prescribing intervals brought tangible benefits for patients and staff, their experience underscores the potential benefit of robust guidance and tools for mitigating risks and minimising complexities.

7.3.2. Case study 5: Hands-on technical support from a health board accelerated practices' implementation of extended prescribing intervals, but cultural and capacity barriers remained.

One health board serving a high proportion of rural patients, with a mix of dispensing and non-dispensing practices, adopted a hands-on approach to supporting GP practices to introduce extended prescribing intervals.

The number of practices requiring this level of support was manageable, which enabled the health board primary care pharmacy lead to maintain a detailed view of implementation across the region. Pharmacy technicians visited practices weekly for up to eight weeks, helping them to implement the changes directly on prescribing systems.

Engagement from practices was mixed. The health board had previously managed the performance of practices in maintaining 28-day prescribing intervals, which meant the change was a greater cultural shift. Those practices less engaged with the previous approach were better placed to adopt a more individualised system.

The health board lead felt that it would have been easier to engage the practices if there were guidance and examples for practices to follow. More evidence of the benefits would help practices prioritise and make the change, particularly given competing initiatives such as EPS and cluster proposals for allied health professionals to support GMS. Limited capacity and a backlog of medication reviews were also noted as barriers, especially as the guidance was introduced amid the recovery from the COVID-19 pandemic in late 2022, when most public health protective measures had been lifted.

> "Our practices have said it's quite hard to gauge how much work to put into this… I don't think we've got a case study, or we haven't got anything to say to our GMS colleagues – look, this is what you're going to gain from it." (Primary care pharmacist)

The health board lead noted that "good news stories" were needed to help build momentum to adopt the guidance across practices. The experiences recorded in the health board suggest that more detailed guidance and enhanced communication could have helped the health board to demonstrate the potential benefits of the policy and support GP practices in understanding how to apply the guidance effectively in practice.

7.3.3. Case study 6: Without targeted health board support, Practice L struggled to prioritise prescribing changes

Practice L is a medium-sized practice serving a population with high levels of long-term health needs, including conditions commonly associated with deprivation and lifestyle-related risk factors. The practice moved only a small number of patients to extended

prescribing intervals, typically 56-days, with changes made gradually. GPs were responsible for implementing longer intervals but uptake was inconsistent. Some doctors and prescribing staff were more motivated to adopt the changes, while some experienced GPs preferred to maintain established workflows. The practice pharmacist noted it was difficult to demonstrate the benefits to GPs.

No formal targets or incentives were set by the health board to encourage efforts to extend prescribing intervals. Participants stated that if adopting the updated All Wales guidance was a health board priority, whether through incentives or benchmarking against other practices, they would pursue implementation more actively. They suggested this could mirror existing initiatives to monitor and incentivise prescribing behaviour, such as prescribing targets to reduce inhaler and opioid use.

Although the practice received guidance and information from the health board, the Welsh Government and NHS Wales, the information was described “long-winded” and overly detailed. These issues made it difficult for clinicians to read and prioritise. Clearer, more targeted engagement from the health board and other organisations was seen as essential to secure buy-in from clinicians and introduce the changes systematically. This case highlights how the absence of health board involvement and clear, concise guidance limited the practice’s ability to implement extended prescribing intervals systematically, underscoring the importance of focused communication and appropriate initiatives to secure clinician buy-in and drive consistent change.

7.4. Patient-centred approaches

When adopting the updated All Wales guidance on prescribing intervals, health boards, practices and community pharmacies have engaged patients to different extents and in different ways. The following case studies demonstrate the different ways that practices and pharmacies have considered patients’ preferences, communicated changes, and managed synchronisation.

7.4.1. Case study 7: Using digital tools to streamline patient engagement helped Practice B to extend prescribing intervals across a large patient population

Practice B is a large urban organisation operating across more than one site. The patient population includes many individuals with complex health needs, such as long-term conditions, mental health challenges, substance-related issues and care home residents.

Following the publication of the updated All Wales guidance, the practice initially adopted a blanket approach, systematically switching patients on 28-day prescriptions to 56-day intervals where clinically appropriate. This process was led by the pharmacy technician and prescribing team, with input from GPs. However, the transition proved labour intensive and presented challenges, such as unsynchronised prescriptions when changes were made mid-cycle.

To address these issues, the practice moved to a more “opportunistic” approach, offering the change to patients during routine interactions. These interactions included annual

medication reviews and repeat prescription requests, through calls or online forms. This gradual, ongoing process enabled the team to assess both clinical suitability and patient preference in real time.

The practice's updated policy was to ask patients about switching to extended prescribing intervals during their annual medication review. Prior to the review, patients receive a text message notifying them their review is due, with a link to a set of multiple-choice questions. All patients due for a medication review were asked about extended intervals, regardless of whether they are on a controlled drug or meet other exclusion criteria. The message was carefully worded to indicate that extended prescribing intervals may not be suitable for everyone, and that final decisions would be made during the review.

If a patient selected 'yes', their choice would be flagged and discussed at their medication review, where the clinician would assess suitability and, if appropriate, implement the change. If the patient selected 'no', the clinician would explore the reasons during the consultation.

This approach has helped normalise extended prescribing intervals as a part of routine care, rather than an exceptional or ad hoc consideration. Practice staff noted it enabled them to quickly identify patients open to the change and provided clinicians with an opportunity for focused discussion. Administrative staff benefited from a clear record of patient engagement and preferences, which could be used to tailor future interactions to individual patient needs. This case demonstrates how leveraging digital tools can support practices to embed extended prescribing intervals into routine care, enabling efficient patient engagement and informed decision-making while reducing administrative burden.

7.4.2. Case study 8: Small Practice J took an individual, personal approach to reviewing prescribing intervals and addressed synchronisation issues proactively

Practice J is a small organisation serving a largely stable population. The patient population includes many older patients and people whose needs vary throughout the year, requiring additional considerations for managing prescriptions. The team sought to adopt a patient-centred approach to extending prescribing intervals.

The practice prioritised clear, direct communication with patients, using every interaction to explain the changes and answer questions. Opportunities included during annual reviews, prescription requests and face-to-face consultations. Exceptions were made for vulnerable groups, in line with the updated All Wales guidance.

Patients were kept informed through multiple channels, including surgery notices, website updates and verbal explanations, which proved especially important for older patients. The practice reported that patients appreciated the convenience of fewer pharmacy visits and the longer prescribing intervals. Staff worked to synchronise medication cycles to avoid confusion, and any issues were quickly addressed through collaboration with local pharmacies.

> "We took a proactive approach to start transitioning people over straight away and we did it in sort of an opportunistic way. So when we had annual reviews, the nurses

> were moving everyone over to 56 days prescribing where appropriate… we put notices up in the surgery and we put messages on our website… and just advised people. Basically, whenever we had a contact with them so that we could advise them that we're moving to 56 day." (Practice manager, Practice J)

Maximising synchronisation required proactive effort. Reception and administrative staff conducted regular searches to identify patients who had been missed or whose prescriptions were not aligned. The team also addressed cases where patients had been issued medication partway through their two-month cycle to ensure alignment, such as to provide acute prescriptions following hospital discharge. This case illustrates that smaller practices can successfully implement extended prescribing intervals through personalised engagement and opportunistic change, but sustaining progress is supported by robust synchronisation processes and ongoing collaboration with local pharmacies.

7.4.3. Case study 10: Community Pharmacists B1 and B2 reported that a practice did not consult patients actively

Two community pharmacists, taking part as one interview case, described their experience working in pharmacies situated next to busy GP practices that serve a substantial population of older patients. One of the practices they discussed was an early adopter of extended prescribing intervals, typically at 56 days.

Much of the responsibility for explaining and managing the new prescribing intervals has fallen to pharmacy staff, rather than being led by GPs. The rollout was often not clearly communicated to patients, with many switched to 56-day cycles without adequate consultation or understanding.

> "A lot of the explanation for 56-day prescribing fell to us as a pharmacy… it was brought in to save us time, but it hasn't worked for us." (Community Pharmacist B1)

The pharmacists expressed concern that a lack of communication was leading to more confusion and waste. Pharmacy teams have seen a rise in patient queries, phone calls, and emergency supply requests. They have also experienced increased medication waste, particularly with items like eye drops and bulky delivery items. Safety concerns have also arisen, with some patients taking incorrect doses due to confusion over multiple packs.

> "We have had some instances… where pharmacists have had to intervene because there's been a potential safety issue with giving more medication than they perhaps needed." (Community Pharmacist B1)

As a result, the pharmacists noted that workload has increased, with fewer dispensing fees but no reduction in resource use. To overcome these challenges, they noted that GPs should ensure clear, patient-centred communication and consultation when reviewing prescribing intervals, including "information publicising the fact that it's very much patient-led" (Community Pharmacist B1). Doing so would require training and materials to explain the changes to both prescribers and patients. It would also ensure that pharmacies are provided renumeration to recognise their central role in supporting patients' needs.

"The policy should be patient-led, not prescriber-driven, and tailored to individual needs." (Community pharmacists B).

7.5. Community pharmacy involvement

While community pharmacies are not the primary decision-makers in extending prescribing intervals, they play a key role in the repeat prescription journey. This is because they often serve as the main point of contact for patients and play a key role in supporting medicines management. The following case studies demonstrate different experiences of community pharmacies in adapting to extended prescribing intervals and collaborating with practices.

7.5.1. Case study 11: A health board encouraged collaboration between GP practices and community pharmacies to review prescribing intervals.

The health board covers a mixture of urban and rural communities, including areas with substantial socioeconomic challenges. The health board initially provided limited hands-on support, assuming that practices would be motivated to implement extended prescribing intervals independently.

When uptake proved slow, the health board established a task-and-finish group to accelerate progress. A primary care pharmacist reported that responsibilities for implementing the guidance were unclear, with health boards lacking resources and practices facing limited capacity.

> "My perspective, if I didn't do anything, no one else would so... we took a real focus on it because we were looking at actions from a community pharmacy sustainability perspective and output this one action that would help address that." (Primary care pharmacist)

The task-and-finish group worked with cluster leads to share data and develop an action plan. Guidance was redeveloped for clarity, and clusters prioritised extended intervals in their collaborative plans. Practices were offered a small financial incentive for working with local pharmacies to produce implementation plans. However, one practice manager noted that early adopters missed out financially as a result.

> "Our proactiveness has put us at a slight disadvantage financially, but hopefully that will be resolved." (Practice manager)

A community pharmacist in the region noted they played an active role in cluster activities. They observed that cluster incentives encouraged collaboration but argued that meaningful change would require integration into the GMS contract through QAIF points.

> "If they had targets, I think they would want to engage in community pharmacy more... I think they would come to us and say, look, we need to get so many patients, so many percentage of patients on 56 days you know, can you help us." (Community Pharmacist H)

Community pharmacies had been reluctant to be the "first mover" due to concerns they could lose income if other pharmacies did not introduce changes simultaneously. They emphasised the need for close coordination to avoid operational issues and highlighted their

ability to support decision-making through regular patient contact. This was seen as critical to preventing vulnerable patients from being overwhelmed with large volumes of medicine and ensure continuity of care. For example, changes could be phased rather than applied universally to avoid overwhelming pharmacy capacity.

7.5.2. Case study 11: Divergent approaches across GP practices created perceived challenges for Community Pharmacist G and the pharmacy's patients.

A community pharmacist working within a small regional pharmacy group described serving a population spread across both urban and rural areas. Initially, GP practices and community pharmacies collaborated on introducing extended prescribing intervals. However, approaches soon diverged, creating substantial variation between practices and knock-on effects for pharmacies and patients.

The pharmacist reported that while some practices planned to implement changes during medication reviews, others failed to sustain the initiative. This resulted in what they described as "huge inequality between some surgeries and others, and again, some pharmacies and others" (Community Pharmacist G). Meetings were arranged with GP practices within collaboratives to discuss implementation, but progress was hindered by concerns over unclear evidence of time savings, high short-term costs and pressures following the COVID-19 pandemic.

Inconsistent adoption of 56-day prescribing created uncertainty for pharmacies, particularly in managing stock and costs. The shift led to "spikes" in expenditure during certain months, increased demand for prescriptions and limited shelf space for high-volume medications.

The pharmacist noted the updated All Wales guidance had been widely misunderstood. While the guidance recommended prescribing at "appropriate intervals," some practices interpreted this as a blanket rule for 56-day cycles. The absence of detailed eligibility criteria contributed to inconsistent patient selection and poor synchronisation, both within households and across medication types:

> "Now we all talk about 56-day prescribing but that paper [the updated All Wales guidance] didn't actually specifically specify it's a 56-day prescribing, it's at an appropriate interval and then it's been completely misunderstood." (Community Pharmacist G)

Among patients for whom extending prescribing intervals was appropriate, benefits included fewer pharmacy visits and greater convenience. However, these advantages were diminished when practices failed to synchronise all medications, leading to confusion and waste.

> "Patients are needing to make three or four different trips to the pharmacy. They're confused. Their medication led to extra wastage when they're not sure which items have moved over, and then they're requesting more items than they should be." (Community Pharmacist G)

This experience was echoed by a patient from another region, who reported that while their spouse had been moved to a 56-day prescription, they remained on monthly intervals, creating uncertainty and requiring careful tracking of prescription dates.

The community pharmacy's experience illustrates how inconsistent interpretation of guidance, implementation and synchronisation can undermine the intended benefits of extended prescribing intervals, increasing operational pressures for pharmacies and inconvenience for patients. This consistent guidance, communication and coordination between GP practices and community pharmacies are essential to deliver equitable and efficient outcomes, with support to maintain momentum in making changes.

8. Interventions

8.1. Chapter summary

This section outlines the process followed to develop and appraise intervention ideas and presents the intervention concepts taken into the APEASE workshop and subsequently refined. A summary of the recommended interventions is set out in Table 4.

Table 4: Summary of recommended interventions

Behavioural Components	Intervention Name	Intervention Function
Motivation; Choice; Outcome	Targets, funding and dashboards	Incentivisation
Motivation; Choice; Execution; Outcome	Establish a collaboration approach between GP practices and community pharmacies	Incentivisation and Enablement
Motivation; Choice; Outcome	Enhanced incentives for community pharmacies	Incentivisation
Execution; Outcome	Expanded role for community pharmacies	Environmental restructuring
Choice; Execution; Outcome	Implementation roadmap	Enablement
Motivation; Choice; Execution	Communications to patients and protocols for self-advocacy	Education
Choice; Execution; Outcome	Decision-aids	Enablement
Choice; Execution; Outcome	How-To Guides (technical)	Enablement
Motivation; Choice; Execution; Outcome	New launch / framing of policy (e.g., via Wales Health Circular)	Education and enablement
Motivation; Choice; Execution; Outcome	Success stories and education	Modelling
Motivations; Execution; Outcome	Waste-management	Enablement

8.2. Appraisal

As set out in section 3.3, intervention ideas were generated and refined by mapping barriers and facilitators to behavioural components using the Integrated Model and Behaviour Change Wheel, supported by rapid evidence review. These ideas were further developed

during an internal design workshop and then formally appraised with primary care and pharmacy stakeholders in an APEASE workshop to assess feasibility, effectiveness and alignment with system needs.

Nine intervention ideas were developed and presented during the APEASE workshop. Below is a list of these intervention ideas, including their names and brief descriptions. The ideas are listed according to their resource implications, beginning with those that would necessitate a greater allocation of resources for implementation, and concluding with those that could be executed with relative ease. At the end of this section, we explain the appraisal process utilised during the workshop. A more detailed explanation of the refined intervention ideas can be found in section 8.3.

1. **Key Performance Indicators (KPIs) and monitoring of the review process:** This intervention aims to motivate GP practices to prioritise extending treatment periods by embedding incentives within the GMS Contract or Quality Improvement Framework. Financial and performance rewards would be directly linked to actions around extending prescribing intervals and to achieving related targets, helping increase adoption where appropriate.

2. **Establish a collaborative approach between GP practices and community pharmacies:** This intervention seeks to build collaborative relationships between GP practices and community pharmacies, increasing motivation, routine communication, and shared planning concerning the implementation of the policy. By leveraging the expertise and patient relationships of community pharmacy teams, the intervention aims to strengthen feedback mechanisms and support joint decision-making. Establishing structured collaboration would promote social accountability and shared ownership, reduce implementation barriers, and increase intrinsic motivation within both sectors.

3. **Expanded role for community pharmacies:** This intervention aims to encourage community pharmacies to play a greater role in extending prescribing intervals. By providing targeted training and guidance materials, the initiative would support pharmacies to take on additional responsibilities such as identifying suitable patients and initiating adjustments that would be later reviewed and approved by GPs.

4. **Implementation roadmap:** This intervention would provide GP practices and community pharmacies with a clear, coordinated roadmap to guide changes to treatment periods. By establishing shared timelines and consistent guidance, it aims to improve policy adoption, minimise disruption, and support confident, fair prescribing changes for clinicians, community pharmacies and patients. Developed collaboratively by PCCs, the phased roadmap would enable practices and pharmacies to implement changes in a more effective and coordinated manner.

5. **Communications to patients and protocols for self-advocacy:** This intervention aims to empower patients to take an active role in their treatment by providing clear, tailored information and promoting choice through structured communication. In these communications, the policy on prescribing intervals could be publicised as a

flexible, patient-led option across community pharmacies and surgeries to support informed decision-making.

6. **Decision-aids:** This intervention would support GP practices and community pharmacies to make clinical decisions, especially in complex scenarios. Stakeholders would be provided with decision aids (e.g., decision trees, consultation guidance) for patient and medicine selection. This would include developing protocols for when medicines are out of synch, detailing how each stakeholder should respond in these scenarios, and assigning responsibilities to each stakeholder group

7. **How-To Guides (technical):** This intervention aims to enhance the confidence and ability of GPs and prescribing teams to adjust prescribing intervals. A practical how-to guide, including a step-by-step process for changing prescriptions, would be provided, along with specific IT system instructions for updating prescription settings.

8. **New launch and/or framing of the policy (e.g., via Welsh Health Circular):** This intervention would consist of issuing a new and updated policy guidance for GP practices and community pharmacies. The new guidance and policy objectives for making changes to prescribing intervals would reduce the emphasis on numerical targets, such as 56-days, increase the focus on the personalisation aspect of changing prescribing intervals, and promote patient engagement and collaboration between GP practices and community pharmacies. This new guide would also provide detailed guidance on implementing a structured transition.

9. **Success stories:** This intervention would communicate the business case and benefits of 56-day prescribing to GPs and practice staff. It would involve developing and disseminating case studies and proof-of-concept examples to demonstrate real-world benefits, including time-saving calculations and patient benefits.

In addition to these intervention ideas, two additional intervention ideas emerged from the research. The first was providing an incentive directly to GP practices to implement the policy, as had already been done by some health boards. The second was to review and refine the compensation scheme for community pharmacists. As both these important interventions would require substantial discussion and negotiation between each contractor tripartite negotiation groups, it was agreed they not be included in the APEASE workshop.

8.2.1. APEASE workshop results

Due to time constraints, only five out of the nine intervention ideas were fully evaluated during the workshop. Key findings are summarised below.

<u>Intervention KPIs and monitoring of the review process</u>

The average ratings for the APEASE criteria associated with this intervention idea were high. Participants rated this intervention highly for practicability and effectiveness, though affordability was lower. Comments on the APEASE grid included positive feedback, with one participant stating, "strong intervention; what gets measured gets done." Another participant highlighted its potential to reduce variations in prescribing practices.

The open group discussion focused on two elements of the intervention: KPIs and monitoring procedures.

In discussing KPIs, one participant emphasised the importance of aligning KPIs with contractual mechanisms to make them actionable. Another participant pointed out, "there is clearly an obstacle to setting KPIs, and it must involve a contractual mechanism." A third participant remarked, "setting KPIs for practitioners is likely impossible. However, we could establish KPIs at the government level as performance targets for health boards." Additionally, one participant suggested examining national prescribing indicators and the variations across different locations and geographical areas. This approach could help prescribers and pharmacists better understand the situation. In response, another participant noted, "the extent to which extended prescribing is feasible will depend on demographics and practice, while most national prescribing indicators focus on quality."

The discussion then shifted to the topic of monitoring. One participant expressed the need to evaluate progress, stating, "we need to see where we are with progress... I believe this intervention provides that insight. Without it, we risk being blind to our situation, which could paralyse the entire project, and I think that's what we are currently experiencing." In response, another participant noted that some data on average prescribing intervals is available on the AWTTC website, which includes a small selection of medications that are typically taken once daily. However, they also added, "it's really challenging to monitor everything."

<u>Establish a collaborative approach between GP practices and community pharmacies</u>

The ratings for acceptability, effectiveness, side effects, and equity were generally high, with effectiveness receiving the highest score (Annex D). In contrast, practicability and affordability received the lowest ratings, with one participant noting the intervention might be difficult to implement. Another participant suggested that this intervention should be a priority for all cluster plans. Additional comments emphasised that "shared responsibility and governance should be clear in comms" and that "collaboration is critical for effective primary care working - this is an opportunity to drive networking and joint working across primary care contractors." Another participant added that "data-driven insights on who the key pharmacies linked to the GP can mitigate having to engage with every pharmacy."

Results from the APEASE grid align with the open group discussion, where most participants agreed the proposed intervention represents good practice but raised concerns about its feasibility.

Participants highlighted that this approach could be effective for practices closely affiliated with a pharmacy. However, practices serving larger geographical areas may face challenges in establishing collaborative efforts. Additionally, one participant pointed out that having transient staff at GP practices and pharmacies can complicate collaboration.

The discussion also focused on the mechanisms that could facilitate this collaboration. One participant noted, "there are mechanisms within pharmacy contracts, and others could be developed for GP contracts to support this work." Another participant mentioned that having a dedicated policy lead could help implement this intervention: "one of the key takeaways is

that when there is an effective lead in a practice or a group of pharmacies, they can act as a 'lightning rod' for all inquiries and challenges that arise with changes to treatment periods."

Participants reported that WhatsApp, Microsoft Teams and other communication tools are typically used for urgent queries, questions, and comments. Additionally, to be effective, they noted the intervention should be integrated at a system level.

Expanded role for community pharmacies

The intervention received high and very high ratings, with effectiveness rated the highest and practicability rated at a medium level.

During the open group discussion, various aspects of the intervention were addressed. Participants generally agreed that this approach could help promote a change in prescribing intervals. One participant noted that expanding the role of community pharmacies raises the question of whether it is a sufficiently high priority for Health Boards (HBs) to encourage their community pharmacists to undertake this work.

However, another participant emphasised that changing prescribing intervals falls under the responsibility of GP practices, while community pharmacists could play a supportive role by communicating or addressing errors in prescriptions. In response, one participant suggested that collaborative working agreements should be established, as any responsibilities assigned to pharmacies may revert to prescribers without clear collaboration.

Finally, a participant who was enthusiastic about the intervention referenced Canada as an example, where prescribing by community pharmacists is a common practice. This participant stated, "I'm not saying it's easy; I understand it's very difficult. However, I believe this is an intervention that should be on our radar. Otherwise, in three years, we will still be discussing pharmacists' inability to make minor interventions on prescriptions when the entire primary care system needs them to do so. The profession should be ready to take this on." Another participant agreed, stating, "it certainly should be the aspiration."

Implementation roadmap

The intervention received overall positive ratings, with acceptability scoring the highest and equity rated at a medium level. However, comments on the feedback grid indicated that “each practice needs a dedicated plan managed within its own timeframe” and that “Forcing the plan could undermine its objectives.” One participant suggested creating a template that involves both practices and community pharmacies, with agreed-upon timelines, roles, and responsibilities. Another participant recommended including patients in public communications.

Participants generally agreed that having an implementation roadmap and support guidance would be beneficial. However, they also emphasised that this intervention alone would not create behavioural change among community pharmacies and GP practices.

One participant highlighted that a more structured approach would be essential for facilitating policy adoption. They noted that feedback suggests the policy should be more focused and targeted, which would make it easier for people to feel comfortable with the

changes being made. In response, another participant suggested that sharing successful examples from GP practices could also aid the adoption.

Communications to patients and protocols for self-advocacy

This intervention received very high ratings overall, with effectiveness being the highest-rated criterion. However, fewer responses were collected for this intervention. The comments added to the grid were generally positive. Nonetheless, one participant expressed concern that "inviting patients to request the change might be problematic for practices" and suggested "working with patient groups and organisations to ensure communication and engagement."

The discussion at the end of the workshop centred on patients and patient communication. One participant raised a concern about how practices should communicate with ineligible patients and noting that most patients would be interested in obtaining longer prescribing intervals. This idea was challenged by another participant who said, "for the majority of people who are on long-term repeated drugs which don't have any sort of addiction potential or anything, then why shouldn't they advocate?" Another participant agreed that empowering patients would be highly beneficial. They suggested using platforms like the NHS Wales app to inform patients about the possibility of longer prescribing intervals.

One participant remarked that GP practices are very effective at communicating with patients en masse and that "they do it in a way that is probably going to be better than what we can suggest to them." They emphasised the importance of consulting with GP practices before developing any interventions related to patient communication.

8.3. Shortlist and refinement

Table 5 summarises eleven interventions developed through the appraisal process. These interventions include targets and dashboards, mechanisms to strengthen collaboration between GP practices and community pharmacies, enhanced incentives and expanded roles for community pharmacies, implementation roadmaps, patient communication strategies and self-advocacy protocols, technical how-to guides, decision aids, policy reframing, success stories and educational initiatives and improved waste management. This last intervention was not presented at the APEASE workshop; however, it was included in the final shortlist of interventions because qualitative research findings suggested that it is a significant barrier for community pharmacies. The table details each intervention’s objectives, the barriers it aims to address, its operational approach and its anticipated outcome.

Table 5: Shortlist of interventions

Description	Barriers addressed	Objectives	Rationale and supporting evidence
Intervention 1: Targets, funding and dashboards Function: incentivisation		Target group: GP practices	
This intervention consists of embedding financial incentives within the GMS contract or Quality Improvement Framework. Incentives would be linked to performance indicators, such as actions and achievement of targets relating to periods of treatment.	(A) GPs and prescribing teams have limited time to undertake medication reviews and find it difficult to prioritise the change. (B) Health boards and clusters lack the financial and performance mechanisms to incentivise change in GP practices. (C) Extending periods of treatment is time-consuming for GP practice staff, especially when many patients have multiple items.	(A) Motivate GPs and prescribing teams to prioritise actions to extend periods of treatment. (B) Increase the uptake and promote a sustained adoption of actions to extend periods of treatment across GP practices.	Integrating extended prescribing interval targets for GMS contractors through a point system would harness motivation through rewards, enhance goal salience by providing a clear and measurable prescribing change target, and reinforce professional norms by embedding the target within the quality framework, signalling organisational priorities and defining what “good practice” looks like. Together, these mechanisms would encourage more proactive and consistent engagement with the policy. However, although financial incentives are considered an essential element in strategies to change prescribing patterns, there is limited evidence of their effects (Rashidian et al., 2015).
Intervention 2: Establish a collaboration approach between GP practices and community pharmacies			

Function: incentivisation and enablement		Target group: GP practices and community pharmacies	
This intervention involves establishing a collaboration approach to promote behavioural change through social accountability, collective ownership, planning and goal setting. This approach would help reduce execution barriers and increase intrinsic motivation among GP practices and community pharmacies. The collaboration approach would include three key objectives: 1) Joint planning (action planning & commitment devices): Within a specified timeframe, GP practices and community pharmacies would prepare and sign off a shared implementation plan. This creates a formal commitment device, increasing accountability and reinforcing collaborative norms.	(A) Lack of coordination between GP practices and Community Pharmacies (CPs). (B) CPs spend, or perceive they will spend, more time addressing errors, such as synchronisation errors, and patient concerns as a result of implementing the policy. (C) GP practices spend, or perceive they will spend, more time reissuing, adjusting or resynchronising prescriptions. (D) Ownership and responsibilities for making the changes are unclear. (E) GP practice and community pharmacy staff feel that other colleagues and contractors are not working towards the same goals and objectives.	(A) Establish a collaboration approach involving feedback mechanisms between GP practices and community pharmacies to enable routine communication, shared ownership, and planning. (B) Make better use of community pharmacies' knowledge and relationship with patients and increase buy-in from community pharmacies. (C) Increase accuracy and consistency of patient identification by clinicians. (D) Ensure patients have smoother transitions into new periods of treatment. (E) Reduce patient confusion by improving communication between GP practices, community pharmacies and	By linking rewards to structured goals, the mechanism draws on rational choice theory, behavioural reinforcement (including monetary incentives), goal-setting theory (specific, measurable objectives), and implementation intentions (planning and joint agreements). It also promotes social accountability by encouraging collaboration across practices and pharmacies to foster collective ownership of the policy. Overall, this design increases intrinsic and extrinsic motivation while reducing execution barriers through deliberate planning, coordination, and sustained feedback. Additionally, evidence shows that pharmacist-led audit and feedback interventions significantly improved prescribing outcomes in primary care (Carter et al., 2023). Similarly, an intervention consisting of pharmacist-led, personalised feedback to prescribers was perceived to have a positive influence on prescribing behaviour and reduce repeat errors (Lloyd et al., 2018).

2) Prescription interval change goals (goal setting & progress monitoring): A measurable target for prescription length would be introduced, either defined as an average prescription interval or as a proportion of patients successfully moved to longer intervals. Clear, specific targets make goals more salient and support progress monitoring, while also making success more tangible. 3) Sustained behaviour change (maintenance goals & feedback loops): A third goal would focus on sustaining change over time, such as revising collaboration agreements after the initial period or setting longer term- benchmarks. This builds feedback loops into the system, helping normalise the behaviour and reducing the	(F) Community pharmacies or patients are not following the longer periods of treatment.	patients. (F) Increase GP practices and community pharmacies' investment into extending periods of treatment. (G) Minimise the time that GP practices and community pharmacies spend addressing errors and patient concerns.	

risk of reverting to old practices.			
Intervention 3: Enhanced incentives for community pharmacies Function: incentivisation		Target group: community pharmacies	
This intervention involves embedding new and enhanced incentive components for extending periods of treatment into the Community Pharmacy Contractual Framework. This would link financial incentives for: (A) Progressive increases in prescription intervals, offsetting revenue losses. (B) Additional payments for short-term investments made in additional resources and changes to implement the new guidance effectively. (C) Long-term financial assurances that safeguard community pharmacies'	(A) Community pharmacies feel that compensation for making the change is uncertain and out of their control. (B) Some community pharmacies have not been rewarded for their efforts to support the policy. (C) CPs spend, or perceive they will spend, more time addressing errors and patient concerns.	(A) Motivate community pharmacies to prioritise action to extend periods of treatment and increase their buy-in. (B) Increase community pharmacies' confidence and ability to extend periods of treatment. (C) Encourage resource allocation into extending periods of treatment among community pharmacies.	Behavioural science literature demonstrates that people experience losses more intensely than equivalent gains, a cognitive bias known as loss aversion (Kahneman & Tversky, 1979). This bias helps explain why concerns about revenue loss from reduced dispensing fees strongly influence community pharmacists' attitudes and often lead to resistance against the extending prescribing intervals policy. Research suggests that the psychological impact of losing something one already possesses is approximately twice as powerful as the pleasure derived from a similar gain, making potential income reductions highly salient and demotivating among community pharmacists. Therefore, redesigning community pharmacy funding and compensation mechanisms can address this critical barrier by (1) offsetting potential financial losses and (2) realigning extrinsic motivators with policy objectives to

viability if anticipated policy benefits are not realised.			reduce resistance. Incorporating performance-based bonuses can further counteract present bias by providing timely rewards that fairly compensate pharmacists for the additional work involved in policy adoption. Additionally, including long-term incentives could encourage sustained engagement. Finally, this mechanism would support gradual attitude shifts toward policy acceptance and adoption.
Intervention 4: Expanded role for community pharmacies Function: environmental restructuring		Target group: community pharmacies	
This intervention includes advising and supporting community pharmacies to undertake additional responsibilities for extending periods of treatment, such as identifying suitable patients and initiating changes within their systems (to be reviewed by GP practices). The intervention also involves providing training and resources to build pharmacists' confidence and	(A) Some community pharmacies reported increased tension with GP practices following the implementation of the policy, with some community pharmacists feeling their concerns were not	(A) Enable and encourage community pharmacies to undertake a greater role in decisions and tasks to extend periods of treatment. (B) Increase community pharmacies' confidence and ability to extend periods of treatment.	This approach aligns with evidence from a different but relevant UK context where independent pharmacist prescribing services resulted in high levels of patient satisfaction, allowed professional enablement among pharmacists, and alleviated GP workload pressures (Mantzourani et al., 2023). Effective integration requires clear role definition, appropriate remuneration models, and ongoing training, all of which this intervention addresses to support sustainable policy adoption. This intervention leverages the role identity of pharmacists as trusted healthcare providers and strengthens social norms by formally recognising their

competence in executing new duties.	acknowledged and their input was often disregarded. (B) Relationship between GP practices and community pharmacies: effective communication channels between pharmacists and GPs enabled community pharmacists to substantially influence practice decision-making; in others, misalignment caused tension. (C) Limited patient involvement in decision-making, contributed to a lack of understanding about the change to prescribing intervals. (D) Extending periods of treatment is time-consuming for GP practice staff, especially when many patients have multiple items.	(C) Increase buy-in among community pharmacies. (D) Encourage resource allocation into extending periods of treatment among community pharmacies. (E) Reduce the time GP practices and community pharmacies spend addressing errors and patient concerns.	critical contribution to patient care. It enhances self-efficacy through provision of resources and training, while addressing practical barriers such as time constraints by releasing pharmacists' capacity. These behavioural levers foster greater engagement, ownership, and sustained adoption of the extending periods of treatment policy.
Intervention 5: Implementation roadmap			

Function: enablement		Target group: GP practices and community pharmacies	
This intervention consists of establishing a policy implementation roadmap. This roadmap should provide clear, consistent guidance and a coordinated, phased approach to policy implementation. By setting uniform timelines and managing the rollout in an orderly and geographically coordinated way, GP practices and community pharmacists can adopt prescribing changes more confidently, fairly, and with less disruption for both staff and patients. The roadmap can be produced by PCCs with the collaboration of GP practices and CPs.	(A) GP practices and community pharmacies are unclear when and how changes should be made. (B) Ownership and responsibilities for making the changes are unclear. (C) Lack of coordination between GP surgeries and Community Pharmacies. (D) GP practice and community pharmacy staff feel that other colleagues and contractors are not working towards the same goals and objectives.	(A) Ensure GP practices and community pharmacies have a clear plan for introducing changes to periods of treatment. (B) Foster a more consistent and coordinated approach to extending periods of treatment. (C) Support clinicians to introduce prescribing changes more confidently and fairly. (D) Minimise disruption for patients and staff when periods of treatment are changed. (E) Reduce the time GP practices and community pharmacies spend addressing errors and patient concerns.	The behavioural science underpinning an implementation roadmap leverages several mechanisms: by providing clear, consistent instructions and employing a phased, coordinated rollout, the roadmap reduces ambiguity, fosters shared professional norms, and enhances self-efficacy among GP practices and community pharmacists. Coordinated timelines further mitigate perceived risks associated with unequal adoption. Additionally, this structured approach allows practitioners to better anticipate workload demands and organise resources efficiently, thereby minimising disruption during the adoption of prescribing guidance.
Intervention 6: Communication to patients and protocols for self-advocacy Function: education		Target group: patients	

This intervention comprises a communication campaign about the policy on extending prescribing intervals. The policy would be framed as a flexible, patient-led option across pharmacies and surgeries to support informed decision-making. In addition, protocols would be developed to enable patients to self-advocate during consultations and ensure they understand prescribing policies, medicine management, and when to seek clarification.	(A) Contractors perceive that extending periods of treatment disrupts synchronisation or adds confusion for patients. (B) GPs and prescribing teams have limited time to undertake medication reviews and find it difficult to prioritise the change.	(A) Empower patients to take an active role in their treatment by providing clear, tailored information and promoting choice through structured communication. (B) Improve patient understanding and confidence in managing their medicines. (C) Increase alignment between patient expectations and prescribing practices, reducing friction during consultations. (D) Increase compliance with prescribing policies. (E) Enhance patient satisfaction and engagement. (F) Reduce workload for community pharmacies and GP practices staff through fewer clarifications and better synchronisation.	This intervention applies Self-Determination Theory (SDT), which emphasises the importance of individuals' sense of autonomy regarding their motivation to change a behaviour, as opposed to feeling that they should change, in empowering them to engage in health-related behaviours (Deci and Ryan, 2008; Sohl, Birdee and Elam, 2016). In this way, the intervention supports patient autonomy through flexible, patient-led prescribing choices, increasing awareness and promoting competence via tailored information that builds self-efficacy, and fostering relatedness through structured communications that promote collaborative trust.
Intervention 7: Decision aids			

Function: enablement		Target group: GP practices	
This intervention involves providing decision aids (e.g., decision trees, consultation guidance) to facilitate patient identification among GP practice staff. This would include developing protocols for when medicines are out of synch, detailing how each stakeholder should respond in these scenarios, and attribute responsibilities to each stakeholder group.	(A) GP practice staff have not received consistent training and guidance for extending periods of treatment. (B) GPs and CPs have numerous concerns about which patients are actually suitable for this policy (e.g. patients not been in stable medications, medication wated due to continuous changes in medication, storage of medication in the house...) (C) GP practices and community pharmacies are unclear when and how changes should be made (D) GP practice staff lack the technical knowledge or systems to make the most efficient changes.	(A) Support GP practices and community pharmacies to make clinical decisions, especially in complex scenarios. (B) Establish a more standardised approach to patient identification. (C) Ensure patients have smoother transitions into new periods of treatment. (D) Reduce the time spent changing patients' prescriptions among GP practice staff and community pharmacies.	The behavioural science principles behind decision aids include: 1) Simplify complex choices by breaking down information into manageable, stepwise formats (e.g., decision trees), reducing the cognitive effort required for decision-making and minimising errors and decisional fatigue; 2) standardise processes to promote consistency, reinforcing social and professional norms across stakeholders; and 3) boost confidence and motivation and enhance perceived capability to manage complex or unfamiliar scenarios. This intervention would support better, more efficient decision-making among GPs and GP practice staff.
Intervention 8: How-to guides (technical)			

Function: enablement		Target group: GP practices	
This intervention consists of developing a practical how-to guide and step-by-step process for changing prescriptions. The how-to-guide would also provide specific IT system instructions for updating prescription settings.	(A) GP practice staff have not received consistent training and guidance for extending periods of treatment. (B) GP practices are unclear when and how changes should be made. (C) Ownership and responsibilities for making the changes are unclear. (D) GP practice staff lack the technical knowledge or systems to make the most efficient changes.	(A) Improve the confidence and ability of GPs and prescribing teams to extend periods of treatment. (B) Ensure patients have smoother transitions into new periods of treatment. (C) Reduce the time GP practices spend when changing patients' prescriptions, including addressing errors and patient concerns. (D) Reduce cognitive load for GP practices.	This intervention aims to enhance the capability of prescribers and GP staff to make prescribing interval changes by providing step-by-step guides and IT instructions. Additionally, prompts such as default IT reminders could further support behaviour change. This approach aims to increase staff's knowledge, skills and abilities on how to perform these changes within their IT systems (e.g., EMIS), simplify complex decision-making and reduce cognitive load while preserving autonomy. Additionally, evidence shows that contextual aids such as pocket-sized guidelines and checklists were effective at reshaping prescribing environments and improved compliance (Høgli et al., 2016; Donnelly et al., 2015).
Intervention 9: New launch / framing of policy (e.g., via WHC)			
Function: education and enablement		Target group: GP practices and community pharmacies	

This intervention consists of issuing further guidance and policy objectives for making changes to periods of treatment. This new guidance would be developed by establishing a working group with AWTTC to take forward the recommendations in this report. This intervention would 1) reduce the emphasis on numerical targets, such as 56-days, and increase the focus on providing periods of treatment that are personalised and appropriate to patients' needs; 2) prioritise patient engagement; 3) promote collaboration between GP practices and community pharmacies, and 4) provide more detailed guidance on implementing a structured transition, including through medication reviews.	(A) Lack of coordination between GP surgeries and Community Pharmacies. (B) Ownership and responsibilities for making the changes are unclear. (C) GP practices and community pharmacies are unclear when and how changes should be made, including to ensure changes are clinically appropriate for individual patients.	(A) Provide GP practices and CPs with a new and updated understanding of the policy's objectives, and the expectations for action. (B) Increase motivation and engagement from GP practices and community pharmacies. (C) Reduce GP practices and community pharmacies' concerns about the policy on health, ethical or operational issues.	This intervention is grounded in established behaviour change techniques that focus on improving prescribers' knowledge, skills, social support, and action planning. By updating policy guidance to emphasise personalised treatment periods instead of fixed numerical targets, it enhances understanding and reduces pressure, enabling clinicians to tailor prescribing to individual patient needs. Collaboration between GP practices and community pharmacies encourages social support and shared responsibility and motivation. Additionally, structured guidance for implementing changes simplifies decision-making and lowers cognitive burden, while highlighting the benefits of personalised prescribing fosters clinician and patient engagement. Some of these elements have been shown to effectively modify prescribing behaviours and promote sustainable change in clinical settings (Hansen et al., 2018).
Intervention 10: Success stories and education Function: modelling		Target group: GP practices and community pharmacies	

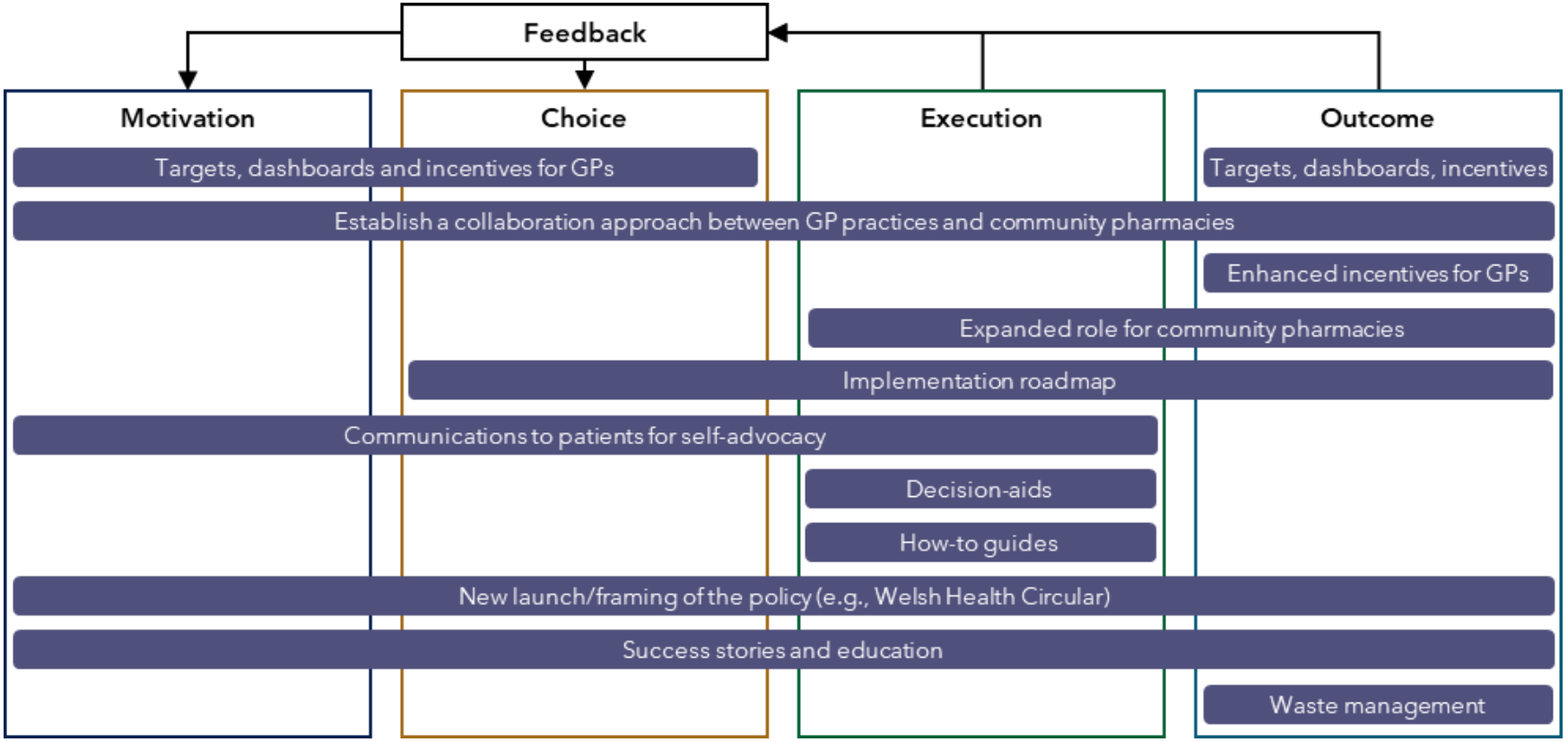
This intervention involves developing and disseminating communications including case studies and proof-of-concept examples to show real-world benefits of the policy. The communications would also include time-saving calculations and demonstrated patient benefits.	(A) CPs and GPs cannot track progress (B) There are no real-world examples showing how all involved parties have benefitted from this policy.	(A) Communicate the business case and benefits of extending the period of treatment to GPs and practices. (B) Increase motivation and willingness among GPs and community pharmacies to adopt extended periods of treatment. (C) Enhance understanding of the practical benefits of the policy, including time savings and improved patient satisfaction. (D) Increase visibility of progress and impact through real-world examples. (E) Minimise resistance to change by addressing concerns with evidence.	This intervention aims to effectively communicate the business case and benefits of extended prescribing intervals to GPs and practice staff. By sharing real-life case studies and proof-of-concept examples, it aims to appeal to rational decision-making through time-saving calculations and actual patient benefits, while also engaging emotions and increasing motivation. This approach would help to overcome scepticism over the policy's benefits by making the advantages tangible and credible. Additionally, using clear and concise messaging aligned with GPs' values could further enhance the effectiveness of this approach.
Intervention 11: Waste-management Function: enablement		Target group: GP practices and community pharmacies	

This intervention consists of establishing a formal feedback mechanism between GP practices and community pharmacies to monitor the potential waste of medication as a result of the implementation of the policy.	(A) GP practice and community pharmacy staff are concerned that extending periods of treatment will result in more medicine waste. (B) GP practices spend, or perceive they will spend, more time reissuing, adjusting or resynchronising prescriptions. (C) GP practice and community pharmacy staff are concerned that when a patient's medication is changed following a recent prescription, more medicine is being wasted or could be taken than with smaller periods of treatment.	(A) Support GP practices and community pharmacies to identify issues and put measures in place to prevent wastage at an earlier stage. (B) Improve coordination between GP practices and community pharmacies. (C) Increase motivation and willingness among GPs and community pharmacies to adopt extended periods of treatment.	This intervention uses a feedback mechanism as a strategy to minimise negative outcomes that may arise from implementing the policy. By communicating instances of medication waste or synchronisation issues between community pharmacies (CPs) and GP practices, this intervention can increase awareness of the potential adverse effects of the policy. This approach encourages collaborative action to minimise the likelihood of these issues occurring.

8.4. Interventions mapped against the Integrated Model

Figure 9 below sets out the interventions discussed in this chapter mapped against the Integrated Model.

Figure 9: Interventions mapped against the Integrated Model



Description of Figure 9: A diagram mapping intervention ideas to the Integrated Model elements: Motivation, Choice, Execution and Outcome. Motivation includes GP targets, dashboards and incentives. Choice includes GP–community pharmacy collaboration and patient self-advocacy communications. Execution covers incentives for community pharmacies, expanded roles, decision-aids, how-to guides and an implementation roadmap. A new policy launch and success stories span multiple domains. Outcomes include targets, dashboards, incentives and waste-management mechanisms.

9. Synthesis and recommendations

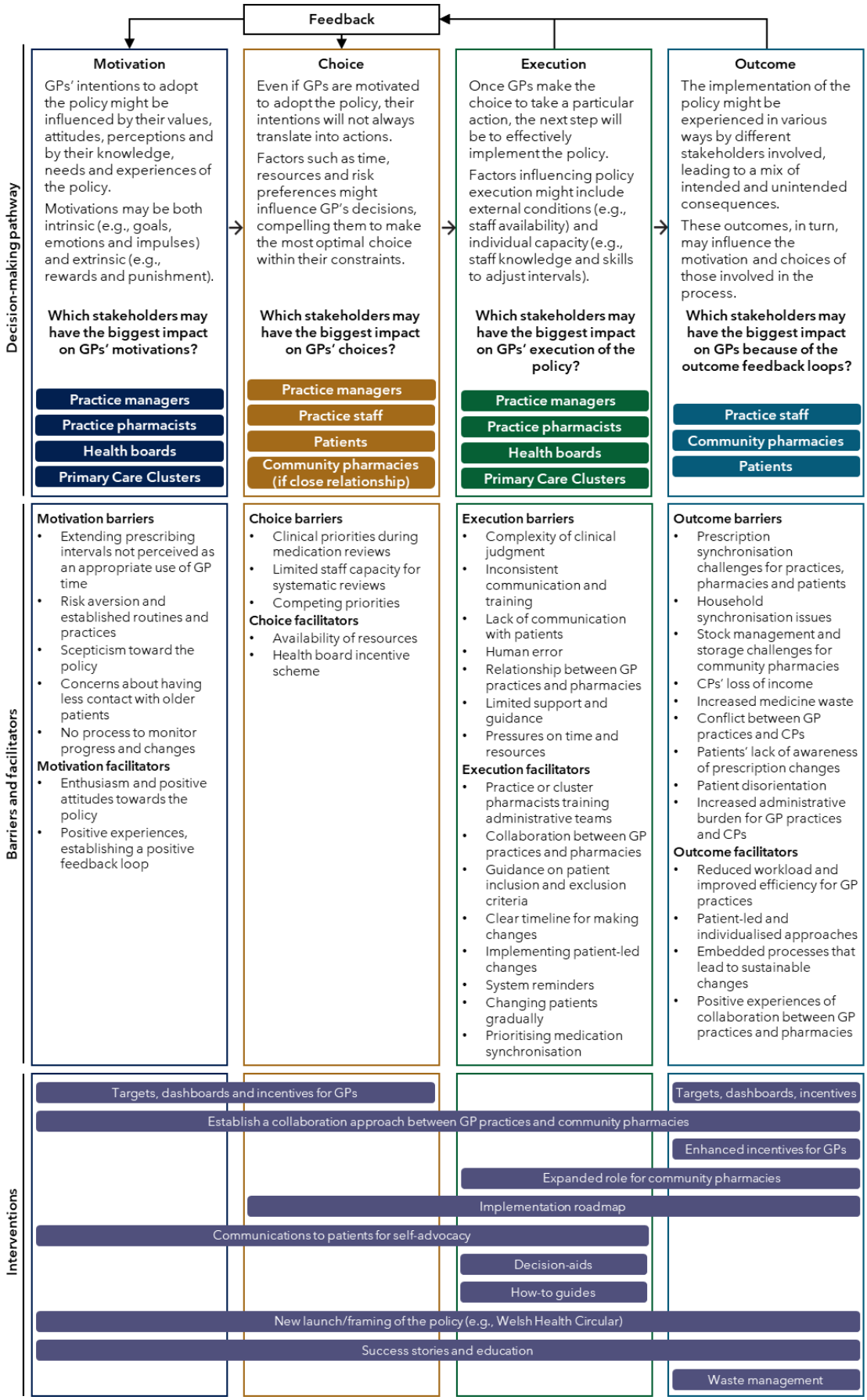
The evidence presented in the preceding chapters demonstrates that implementing the updated All Wales Guidance on Prescribing Intervals policy, published in October 2022, is more complex than it first appears. Determining an appropriate prescription interval sits within a multifaceted institutional landscape and relies heavily on the working relationship between prescribers (predominantly GPs) and community pharmacists. It also requires nuanced clinical judgment, incorporating an understanding of the medication, the patient, and the patient's mental and physical condition. The complexity of this process belies the apparently straightforward nature of the policy and particularly its title.

A central theme in the research team's analysis was the distinction between the desired impact of the policy – an increase in the average prescribing intervals – and the desired behaviour, which was a patient-centred, individualised process when reviewing repeat prescribing intervals. This stands in contrasts to the more standardised approach implied in the previous prescribing policy which, in general, recommended intervals of 28-days. The importance of this distinction was evident in case studies where practices had changed prescribing intervals in wholesale way, focusing on achieving the impact rather than encouraging the behaviour. This led to negative outcomes, particularly where patients received inappropriate prescribing intervals.

A second key insight was that, although community pharmacists were foregrounded in much of the policy's supporting documentation, the key decision-makers were GPs (which in some cases will also include other prescribers, such as pharmacists and nurses) and GP practices. While the policy envisaged close collaboration between GPs and community pharmacists, in practice this did not seem to happen consistently. Even where collaboration existed, prescribing decisions remained GP-led. Taking these two insights, the distinction between behaviour and impact and the fact that GPs were they key decision-makers, the findings in this report have focused on the barriers and facilitators to GPs' clinical reviews and decisions to extend prescribing intervals where clinically appropriate.

Figure 10 summarises the GPs behavioural pathway, the associated barriers and facilitators identified through the research and the proposed interventions, mapped against the Integrated Model.

Figure 10: Overview of the GPs' decision-making pathway mapped against the Integrated Model, with barriers, facilitators and proposed interventions



Description of Figure 10: A consolidated diagram showing GP behaviour across the Integrated Model, combining influencing factors, stakeholders, barriers, facilitators and interventions. Motivation covers intentions shaped by values, perceptions and monitoring, with barriers such as low priority and perceived risks and facilitators including enthusiasm and positive experiences. Choice shows constraints including clinical priorities, capacity and competing demands, with incentives and resources as facilitators. Execution highlights challenges such as complex clinical judgement, communication issues, human error and weak GP–pharmacy relationships, with facilitators including pharmacist support, trained admin teams, collaboration, standardised processes and prompts. Outcome covers synchronisation and workload issues feeding back into earlier stages, with facilitators and positive feedback loops including reduced workload and efficiency for GP practices, patient-led and individualised approaches, embedded processes and positive collaboration between practices and pharmacies. Interventions mapped across stages include GP dashboards, targets, incentives, collaboration approaches, expanded pharmacy roles, guidance, communications, decision-aids, how-to tools, implementation planning, policy launches, success stories and waste-management measures.

Although some GPs expressed concerns about potential safety risks and increased waste, they generally understood and supported the rationale for the updated guidance. Motivation therefore did not appear to be the central barrier. Rather, GPs perceived that changing prescribing intervals offered limited benefits for practices themselves (as opposed to patients and potentially community pharmacists), which were uncertain and take time to materialise. In contrast, the time and effort costs of implementing the policy were immediate and substantial. Practices also identified practical and logistical barriers that made implementation feel far from straightforward.

Where the policy had been implemented rapidly and with limited consultation with community pharmacists, practices experienced a range of negative outcomes. These included complications for patients with multiple prescriptions, heightened tensions between practices and community pharmacists, patient confusion and concerns from some pharmacists that the compensation scheme was not working effectively. These experiences were reported to create additional administrative burdens and strained relationships between GP practices and their local community pharmacies, creating a negative feedback loop that further dampened enthusiasm for the policy.

Despite these challenges, the research found examples of successful implementation. Even modest incentives from some health boards were sufficient to encourage practices to invest the time and effort required. This was further reinforced in practices with embedded pharmacists who had the skills and enthusiasm to implement the policy. Additionally, structured approaches, particularly those involving training for practice staff, including administrative teams, helped mitigate many of the logistical and practical challenges observed elsewhere.

The intervention ideation and review process, including an APEASE workshop to ‘stress test’ the intervention ideas, resulted in 11 intervention recommendations discussed in Chapter 8. These would require further development before implementation, which was beyond the scope of this project. The research team believes that, in combination, these interventions could have a positive and substantial impact on adoption of the updated All Wales guidance. Among them, the introduction of short-term incentives for GPs are

assessed as having the greatest potential for impact, as it addresses the barrier that the team considers the most substantial. There is also already evidence that it would be successful as it has been introduced by some health boards with positive benefits.

Finally, the team recommends that the intervention ideas, once further developed and whether implemented together or separately, be piloted and evaluated to confirm their effectiveness and to refine or develop them where evidence indicates potential improvements. Given the inherent complexity of behaviour change, even well-designed interventions may not work as intended and ongoing monitoring after piloting and evaluation will be essential to ensure they continue to operate effectively.