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In Pursuit of Exclusivity:
Conditional Regulatory Data Protection
under the EU Pharma Package

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Summary

This thesis examines the 2023 “Pharma Package” revision of EU pharmaceutical legislation, focusing on the renewed framework for Regulatory Data Protection (RDP) of medicinal products as set out in the final compromise texts of the proposed Directive and Regulation. The reform restructures RDP from a standard, one-size-fits-all approach into a system of conditional extensions, awarding additional exclusivity in exchange for outcomes tied to EU public health objectives.

The study analyses two of the extension mechanisms in depth: the extension for unmet medical need (UMN) and the transferable data exclusivity vouchers (TEVs) for priority antimicrobials. It sets out their definitions and conditions throughout the 2023 and 2026 versions of the Directive and Regulation, locating them within the broader architecture of extensions, and evaluates them against legal certainty and incentive-design coherence. On that basis, the thesis assesses whether the renewed RDP framework delivers on its dual objective of incentivising targeted innovation while safeguarding timely generic market access.

Through doctrinal analysis and policy considerations, the thesis offers original insights into the design and viability of the reformed RDP regime, contributing to EU life science law at a pivotal moment ahead of the adoption of the final texts of the Directive and Regulation.

Keywords: regulatory data protection, Pharma Package, market exclusivity, unmet medical need, transferable exclusivity voucher, priority antimicrobial.

Sammanfattning

Denna avhandling granskar 2023 års översyn av EU:s läkemedelslagstiftning, det så kallade ”läkemedelspaketet”, med fokus på det förnyade ramverket för skydd av regulatoriska data (*regulatory data protection*) för läkemedel, såsom det framgår i de slutliga kompromisstexterna till det föreslagna direktivet och den föreslagna förordningen. Reformen omformar RDP från en standardiserad, universell modell till ett system med villkorade förlängningar, där ytterligare exklusivitet beviljas i utbyte mot resultat som är kopplade till EU:s folkhälsomål.

I studien analyseras två av förlängningsmekanismerna ingående: förlängningen för icke tillgodosedda medicinska behov (*unmet medical need*) och de överlåtbara kupongerna för dataexklusivitet (*transferable exclusivity vouchers*) för prioriterade antimikrobiella läkemedel. Studien redogör för definitionerna och villkoren för dessa mekanismer i både 2023- och 2026-versionerna av direktivet och förordningen, placerar dem i det övergripande systemet för förlängningar och utvärderar dem med avseende på rättssäkerhet och samstämmighet i utformningen av incitament. Mot denna bakgrund undersöker avhandlingen om det förnyade RDP-ramverket uppfyller sitt dubbla syfte att främja riktad innovation och samtidigt säkerställa ett snabbt generiskt marknadstillträde.

Genom rättslig analys och rättspolitiska överväganden ger avhandlingen nya insikter i utformningen och genomförbarheten av det reformerade RDP-systemet, vilket bidrar till EU:s lagstiftning inom life science-området vid en avgörande tidpunkt inför antagandet av de slutliga texterna till direktivet och förordningen.

Preface

I would like to thank my supervisor, Ana Nordberg, for the discussions and valuable insight shared during the writing of this thesis, especially with regard to narrowing down such a broad legislative topic.

To my family, friends and colleagues, spread between Athens, Lund and Copenhagen: thank you for providing the setting and tone that made everyday life during the master's programme a warm and sunny video game simulation, where anything could happen.

Abbreviations

AI	Artificial Intelligence
AMR	Antimicrobial Resistance
CHMP	Committee for Medicinal Products for Human Use
CJEU	Court of Justice of the European Union
EFPIA	European Federation of Pharmaceutical Industries and Associations
EMA	European Medicines Agency
EU	European Union
HERA	Health Emergency Preparedness and Response Authority
MA	Marketing Authorisation
RDP	Regulatory Data Protection
R&D	Research and Development
SPC	Supplementary Protection Certificate
TEV	Transferable Exclusivity Voucher
UMN	Unmet Medical Need

1. Introduction

1.1. Background

For the first time in two decades, the European Union is renewing its core legislation on the authorisation, marketing and supervision of medicinal products for human use.¹ Known as the “Pharma Package”, this legislative revision comes in the form of a new Directive and a new Regulation, which inter alia repeal their predecessors, namely Directive 2001/83/EC and Regulation (EC) No 726/2004. The Package was announced by the European Commission in April 2023, and on 4 June 2025 the Council of the European Union agreed its negotiating position. On 11 December 2025, the Council and the European Parliament reached a political agreement on the final shape of the new rules.² In early March 2026, the agreement received the final sign-off from the Council’s COREPER I Committee, and on 18 March 2026 it was approved by The Parliament’s Public Health Committee (SANT), with the first reading expected later within 2026. Despite the current lack of formal adoption, the text is sufficiently final to provide a detailed picture of what the EU medicines framework will look like for the coming decades.

Medicines regulation has historically been framed as a patient-protection project: over the past century, regulatory laws and systems have been established primarily to secure the quality, safety and efficacy of treatments and vaccines. Less frequently recognized, but equally important, is the role

¹ European Commission, *Pharmaceutical Strategy for Europe* (Communication) COM(2020) 761 final; European Commission, 'Reform of EU pharmaceutical legislation' (*Public Health*, 4 May 2026) <https://health.ec.europa.eu/medicinal-products/reform-eu-pharmaceutical-legislation_en> accessed 23 May 2026.

² European Commission, 'Commission welcomes political agreement on major reform of EU pharmaceutical rules' (Press release IP/25/3015, 11 December 2025).

these laws play in focusing and shaping innovation through signals, incentives and restrictions.³ The Pharma Package thus operates not only as a safety regime, but also as a sophisticated tool of innovation policy.

The new rules introduce major changes in several areas of the pharmaceutical product lifecycle, such as marketing authorisation procedures, timelines, regulatory data protection and supply obligations, in an effort to strengthen timely and equitable access across the EU to safe, effective and affordable medicines.⁴ According to the legislation's explanatory memorandum, the Directive and Regulation are designed to operate in synergy "to enable innovation and promote the competitiveness of the EU pharmaceutical industry", by establishing a "balanced system of incentives" for developing and supplying medicines in the Union.⁵

Although the Package addresses a broad range of topics in the realm of pharmaceuticals, its core amendment can be understood as a realignment of Regulatory Data Protection (hereinafter "RDP") for medicinal products for human use. Through this recalibrated system of data protection, the Package moves from a flat, one-size-fits-all RDP period to a conditional, behaviour-dependent system of extensions, introducing new parameters to the ever-relevant balancing task between innovation and competition. This is a major update to the regulatory data protection framework: at a base level, pharmaceutical companies that hold marketing authorisations for a medicinal product continue to enjoy protection of the clinical and pre-clinical data

³ Inkatuuli Heikkinen and others, 'Role of Innovation in Pharmaceutical Regulation: A Proposal for Principles to Evaluate EU General Pharmaceutical Legislation from the Innovator Perspective' (2023) 28 *Drug Discovery Today* 103526, 2.

⁴ European Commission, 'Pharmaceutical Strategy for Europe' (Press release IP/20/2173, 25 November 2020).

⁵ European Commission, *Proposal for a Directive of the European Parliament and of the Council on the Union Code Relating to Medicinal Products for Human Use, and Repealing Directive 2001/83/EC and Directive 2009/35/EC* COM(2023) 192 final, 15.

submitted in support of their application, as well as a period of marketing exclusivity, during which competitor generic products cannot be placed on the market. What is new is the introduction of conditional extensions of these data- and market-protection periods, which can be obtained by satisfying specific regulatory criteria.

These conditions for additional RDP of medicines closely mirror the EU's policy priorities in the pharmaceutical sector. They reward, *inter alia*, the addressing of unmet medical needs, the generation of robust comparative clinical evidence, and the timely and geographically broad availability of medicines across the Union.⁶ They also reflect a concern and special interest in tackling the problem of antimicrobial resistance.⁷ The latter — which is defined as the ability of micro-organisms to survive or grow in the presence of an agent that normally inhibits or kills them — has been identified by the Commission and Member States as one of the top three priority health threats for the EU.⁸ Within this framework, the development of novel priority antimicrobials is tied to transferable exclusivity vouchers, enabling companies that successfully develop such products to extend the data protection of other medicinal products under defined conditions.

Against this backdrop, the thesis turns to the redesigned RDP framework and focuses on two of its mechanisms: the unmet medical need extension and the transferable exclusivity voucher for the development of priority antimicrobials.

⁶ Commission, *Proposal for Directive 2023* (n 5) 1, 15–16.

⁷ Commission, *Proposal for Directive 2023* (n 5) 10–12.

⁸ European Commission, *Health Union: Identifying Top 3 Priority Health Threats* (HERA factsheet, 8 July 2022).

1.2. Purpose and Research Question

The purpose of this thesis is to present and systematise the rules of the redesigned system of Regulatory Data Protection introduced as part of the EU Pharma Package reform, with a particular focus on its new conditionality mechanisms for extending protection. Through this analysis, the thesis will consider how the new legislation links lengthened regulatory data and market protection periods to targeted, policy-oriented conditions, with a view to rewarding specific R&D and regulatory behaviours considered valuable for the Union's public health and pharmaceutical-sector objectives.

The thesis specifically asks to what extent the conditional mechanisms for unmet medical need and priority antimicrobials establish clear and predictable legal conditions for obtaining additional protection. Additionally, it asks how the redesigned framework as a whole delivers on the dual objective of rewarding targeted medicinal innovation while preserving timely generic and biosimilar market entry. Within this framework, the thesis examines, first, the legal criteria and design of the unmet medical need extension, and second, the eligibility conditions and structure of the transferable exclusivity voucher mechanism. Third, the thesis assesses the overall effect of the redesigned framework on its dual objective, before concluding with an open-ended reflection on whether the framework remains meaningfully calibrated in light of AI-driven pharmaceutical R&D.

The research question is as follows:

To what extent do the new conditional regulatory data protection mechanisms for unmet medical need and priority antimicrobials establish clear and predictable legal conditions for obtaining additional protection, and how does the redesigned regulatory data protection framework deliver upon the dual

objective of advancing targeted medicinal innovation while ensuring timely generic and biosimilar market entry?

In this vein, the thesis will work towards answering the following sub-questions:

Do the legal criteria and operation of the unmet medical need extension in Articles 81 and 83 of the new Pharmaceutical Directive provide a sufficiently clear and predictable basis for obtaining additional regulatory data protection, when situated within the broader framework of RDP extensions, and is it well designed as an incentive?

Do the eligibility conditions and structural features of the transferable exclusivity voucher for priority antimicrobials in Articles 40-43 of the new Pharmaceutical Regulation form a sufficiently clear and predictable basis for obtaining additional regulatory data protection, when situated within the broader framework of RDP extensions, and is it well designed as an incentive?

Does the revised regulatory data protection framework deliver the dual objective of rewarding targeted medicinal innovation while preserving timely generic and biosimilar market entry, and do its conditional mechanisms remain meaningfully calibrated in an evolving R&D landscape, with particular attention to AI-driven innovation?

1.3. Delimitations

This thesis is confined to a focused analysis of selected aspects of the redesigned EU regulatory data protection framework, and its scope is delimited in four respects.

Substantively, the analysis concentrates on the new conditional extension mechanisms introduced in the framework, namely the unmet medical need extension in Articles 81 and 83 of the new Pharmaceutical Directive and the transferable exclusivity voucher mechanism for priority antimicrobials in Articles 40-43 of the new Pharmaceutical Regulation. Other RDP extension mechanisms in the new framework — such as the extension for comparative and multi-Member-State clinical trials and for prioritising marketing-authorisation applications in the EU — are considered only insofar as necessary to situate the UMN and TEV mechanisms within the broader incentive architecture. Frameworks such as the orphan medicinal product regime and the voluntary subscription model for priority antimicrobials are likewise addressed only to the extent needed for contextualisation of the UMN and TEV mechanisms, but neither framework is subjected to a full comparative assessment.

Furthermore, the thesis does not engage with the intellectual property dimension of pharmaceutical exclusivity. Although patents and supplementary protection certificates (SPCs) run in parallel with RDP for most medicinal products, patent law and SPC protection are not analysed. Their relationship with RDP is briefly explained in Chapter 2, only to the extent necessary to situate the RDP system conceptually. Similarly, the analysis is limited to the legal design of the RDP mechanisms and does not assess the enforcement or litigation dynamics of these RDP rules before

courts or regulatory authorities. Finally, as the conditional mechanisms analysed primarily concern chemical medicinal products, references to follow-on market entry are to be read in the context of generic competition; biosimilar-specific dynamics are not separately addressed.

Geographically and normatively, the analysis is restricted to EU law. It engages with the current and upcoming EU pharmaceutical legislation and closely related soft law and regulatory guidance, but does not examine national implementation measures, national case law or Member State-level frameworks.

Temporally, the provisions on regulation data protection analysed are those contained in the February 2026 final compromise texts of the proposed Directive and Regulation as approved by the EU institutions, prior to formal adoption. As a result, there is, at the time of writing, no case law and only limited scholarly treatment of the new mechanisms. The temporal implications of this “pre-implementation” vantage point, including the absence of EMA guidelines on the application of the unmet medical need and exclusivity voucher mechanisms, are returned to in the temporal snapshot in Chapter 6.

Methodologically, the thesis is limited to doctrinal legal analysis supplemented by targeted policy materials, and does not engage in empirical assessment of how medicine developers, generic manufacturers and national competent authorities will respond once the framework applies, nor in economic modelling of the expected effect of the conditional rewards on R&D investment patterns or generic-entry timing. The reflection in Chapter 5 on AI-driven R&D is open-ended by design and identifies a calibration question rather than resolving it.

1.4. Methodology and Materials

This thesis follows a doctrinal legal method, supplemented by a targeted policy analysis where necessary to interpret the novel provisions in their regulatory and political context.

Doctrinal analysis is the traditional method of legal scholarship focusing on identifying, interpreting and systematising legal rules and principles as they appear in legal sources. It asks what the law is on a given issue, and how the relevant norms fit together, through analysis of the “black-letter” of legal texts and the reasoning of courts and authorities.⁹ Chynoweth argues that legal doctrines are systematic formulations of the law in particular contexts, “which help clarify ambiguities within rules, place them in a logical and coherent structure and describe their relationship to other rules.”¹⁰

Within the doctrinal method, a distinction can be drawn between interpreting the law for its content — clarifying what the relevant rules say on a particular question — and the further task of systematising, conceptualising and evaluating legal materials at a higher level of abstraction.¹¹ This thesis operates in both registers. The reading of specific provisions of the new Directive and Regulation, in particular the criteria for unmet medical need under Articles 81 and 83 and the eligibility conditions for the transferable exclusivity voucher under Articles 40-43, is interpretive in character. The

⁹ JM Smits, *The Mind and Method of the Legal Academic* (Edward Elgar Publishing 2012) 11-13.

¹⁰ Paul Chynoweth, ‘Legal research’ in Andrew Knight and Les Ruddock (eds), *Advanced Research Methods in the Built Environment* (Wiley-Blackwell 2008) 29.

¹¹ Jan Smits, ‘What is Legal Doctrine? On the Aims and Methods of Legal-Dogmatic Research’ in Rob van Gestel, Hans Micklitz and Edward L Rubin (eds), *Rethinking Legal Scholarship: A Transatlantic Dialogue* (CUP 2017) 207, 210–214.

systematisation of these mechanisms within the broader regulatory data protection architecture and their evaluation against legal certainty and incentive design moves beyond pure interpretation toward normative appraisal.

The interpretive work combines textual, systematic, teleological and historical interpretation.¹² Textual interpretation focuses on the wording of the provisions themselves. Systematic interpretation locates each provision within the framework of the new Directive and Regulation and the adjacent EU pharmaceutical instruments. Teleological interpretation asks what objective the rule is intended to serve and is particularly important in EU law, given the open-textured drafting of much of the secondary legislation. Historical interpretation draws on the legislative recitals and relevant preparatory works to clarify the legislator's objectives.

Doctrinal research does not, however, operate in isolation from policy and politics, especially in the field of EU pharmaceutical law. The Pharma Package reform is a novel legislative development that emerged from a politically contested negotiation between the Commission, Parliament and Council, against the backdrop of mounting pressure on the Union's pharmaceutical innovation ecosystem and the worsening antimicrobial resistance crisis. As argued by Van Gestel & Micklitz, legal analysis of EU instruments must move beyond purely technical interpretation and engage with the regulatory and political context of the rules at hand.¹³ In this vein, the thesis draws on a range of policy materials alongside the legal texts: the Commission's Impact Assessment accompanying the reform proposals, the

¹² Koen Lenaerts and José A Gutiérrez-Fons, 'To Say What the Law of the EU Is: Methods of Interpretation and the European Court of Justice' (2014) 20 *Columbia Journal of European Law* 3, 5.

¹³ Rob van Gestel and Hans-Wolfgang Micklitz, 'Why Methods Matter in European Legal Scholarship' (2014) 20 *European Law Journal* 292, 309–11.

Pharmaceutical Strategy for Europe, AMR-specific policy documents including the European One Health Action Plan against AMR, position papers and impact studies from the European Federation of Pharmaceutical Industries and Associations (hereinafter “EFPIA”) and industry-commissioned reports, and the EMA's Reflection Paper on Artificial Intelligence in the Medicinal Product Lifecycle. These materials are used not as authoritative sources of law, but to illuminate the policy objectives behind the new conditional mechanisms and to inform the teleological interpretation of the legal provisions.

The evaluative parts of the thesis focus, at the level of the individual mechanisms, on legal certainty as a general principle of EU law and on incentive design, understood as the extent to which the UMN and TEV mechanisms are coherently structured to pursue their stated aims. At the level of the redesigned framework as a whole, the analysis further considers how these mechanisms contribute to the reform’s dual objective of strengthening timely and equitable access while enabling innovation and promoting the competitiveness of the EU pharmaceutical industry, as articulated in the Pharmaceutical Strategy for Europe.

The thesis operates within the hierarchy of EU legal sources, centring on the secondary law of the new Directive and Regulation, as well as Directive 2001/83/EC and adjacent instruments. More concretely, the analysis proceeds in three steps that are reflected in the structure of Chapters 2 to 4. First, the relevant provisions of the revised framework are identified and reconstructed, starting from the current legislative framework under Directive 2001/83/EC and moving to the new conditionality extensions for regulatory data protection in the reform. To systematise the new rules, the analysis works primarily along the axis of the current framework of Directive 2001/83/EC and Regulation (EC) No 726/2004. Earlier instruments in the legislative

history of RDP — including Directive 65/65/EEC, Directive 87/21/EEC, Regulation No (EEC) 2309/93 and Directive 2004/27/EC — are drawn on briefly to situate the modern regime historically. Adjacent instruments, most notably Regulation No (EC) 141/2000 on orphan medicinal products and Regulation (EC) No 507/2006, are used at specific points, primarily in the analysis of the UMN extension, to test terminology continuity and to compare definitions across the broader EU medicinal product framework.

Second, the thesis systematises the two selected conditional mechanisms by examining their internal structure (criteria, conditions, procedure) and their position within the broader landscape of conditional extensions in the new Directive and Regulation. Additionally, the TEV mechanism is situated alongside the voluntary subscription model as a parallel Union instrument for incentivising antimicrobial development. Third, the thesis evaluates these mechanisms against two criteria: legal certainty as a principle of EU law, and incentive design as a measure of how well the mechanisms are structured to achieve the legislative objectives they pursue.

This three-step procedure tracks the structure of the sub-questions. The first and second sub-questions, concerning the UMN extension and the TEV mechanism respectively, are answered through steps one and two — doctrinal identification and systematisation of each mechanism within the broader RDP architecture — followed by step three: a dual evaluation against legal certainty and incentive design. The third sub-question, addressing the redesigned framework's delivery on its dual objective and its calibration in light of AI-driven R&D, is answered through a synthesis that draws on the preceding doctrinal work and supplements it with a contextual analysis of the policy, regulatory and technological environment in which the framework will operate. The brief discussion of AI-driven medicinal innovation in the final chapter therefore constitutes an interpretive and contextual reflection on

the regulatory design of conditional data protection, rather than an empirical assessment of technological change.

1.5. Outline

The thesis opens with an introductory chapter that situates the reform of EU pharmaceutical legislation in its broader policy context and explains why the redesign of regulatory data protection (RDP) is a central innovation of the Pharma Package. It presents the purpose and research questions, focusing on the new conditional RDP extensions for unmet medical need (UMN) and priority antimicrobials, and sets out the main delimitations. The chapter then describes the methodology, explaining that the thesis uses doctrinal legal analysis, complemented by selected policy materials, and evaluates the mechanisms through legal certainty and incentive design, with the framework's dual objective — innovation/competitiveness and access — providing the overarching policy benchmark.

Chapter 2 provides the doctrinal and conceptual foundation on regulatory data protection. It first sets out the RDP regime under Directive 2001/83/EC and related instruments, explaining how the traditional “one-size-fits-all” data and market protection periods function in parallel with patent protection. It then analyses the innovation challenges and access tensions under the current framework, before turning to the revised RDP architecture under the Pharma Package. This includes an exposition of the new conditional extension mechanisms and their place within the broader incentive system, setting up the later, more detailed analysis of UMN and TEV.

Chapter 3 turns to the unmet medical need extension as a conditional RDP mechanism. It begins by situating UMN within the revised framework and presenting the legal definition adopted in the new Pharmaceutical Directive, including its links to other parts of EU medicinal-product law. The chapter then examines how the UMN condition operates in practice within the new RDP architecture. In its evaluative sections, it assesses the UMN extension for legal certainty — clarity and predictability of the criteria and procedures — and as an incentive design choice, asking whether it is likely to steer R&D towards the types of innovation the legislator identifies as unmet needs.

Chapter 4 undertakes the corresponding analysis for the transferable exclusivity voucher mechanism for priority antimicrobials. It first explains how TEVs function as an RDP extension, detailing the conditions for granting a voucher, the rules on transfer, use and time limits, and the way TEVs interact with other RDP extensions and the voluntary subscription model for antimicrobials. The chapter then evaluates the TEV mechanism along the same two axes as UMN: legal certainty of the eligibility rules and predictability of outcomes, and the quality of the incentive design. It considers both the potential of TEVs to mobilise investment in novel priority antimicrobials and the risks and trade-offs for generic entry.

Chapter 5 draws together the doctrinal work of the previous chapters in a broader discussion of the redesigned framework's performance on its dual objective of innovation and timely access. It first synthesises how the UMN and TEV mechanisms, taken together with the other conditional RDP tools, reshape the balance between originator exclusivity and generic competition, and to what extent they deliver on the stated goals of strengthening access and enabling targeted innovation. The chapter then looks ahead to an R&D

landscape increasingly shaped by AI-driven tools, offering an open-ended reflection on whether the calibration of the conditional extensions is likely to remain fit for purpose as the cost, speed and nature of pharmaceutical innovation evolve. The final chapter concludes by directly answering the research questions.

2. Regulatory Data Protection: From One-Size-Fits-All to Extension Conditionalities

2.1. Regulatory Data Protection under Directive 2001/83 EC

a. The current system of Regulatory Data Protection

In order to receive a Marketing authorisation (hereinafter “MA”) and market their medicinal products, companies are required by EU pharmaceutical law to prove the quality, safety and efficacy of their medicines through submitting the appropriate pre-clinical and clinical trial data to the competent regulatory authorities.¹⁴ Only upon the approval of the application and granting of the MA may its holder place the relevant product on the market.

An MA may be granted at EU level by the European Medicines Agency (hereinafter “EMA”) or at national level by the competent authorities of the

¹⁴ Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use [2001] OJ L311/67, art 6.

Member States. The current legislative framework, consisting of Directive 2001/83 EC and Regulation No 726/2004, provides for several procedures for receiving a MA, regardless of the level at which it is granted. According to the “full” or “stand-alone” application, a dossier must contain, *inter alia*, results of pharmaceutical (physico-chemical, biological or microbiological) tests, pre-clinical (pharmacological and toxicological) studies, and clinical trials.¹⁵

However, the Directive also provides a simplified, “abridged procedure”.¹⁶ Under this route, an applicant can avoid submitting its own pre-clinical and clinical trial results if it can demonstrate that its medicinal product is a generic of a reference medicinal product that has been authorised for at least eight years in a Member State or at EU level.¹⁷ The same provision further provides that the generic medicinal product authorized through this procedure cannot be placed on the market until after ten years have lapsed from the initial authorisation of the reference product. This regulatory data protection does not affect industrial and commercial property, which means that IP rights — such as patents or SPCs — must also have expired before the generic can lawfully be marketed.¹⁸ The protection period can be extended to a maximum of eleven years, if during the first eight years, the MA holder obtains approval for one or more new therapeutic indications which are held to bring a significant clinical benefit in comparison with existing therapies.¹⁹ A new therapeutic indication, in this context, means an additional disease, condition

¹⁵ Directive 2001/83/EC (n 14) art 8(3)(i); Sally Shorthose, *Guide to EU Pharmaceutical Regulatory Law* (2nd edn, Kluwer Law International 2012) 349.

¹⁶ Directive 2001/83/EC provides for three types of abridged procedures, based on: (a) consent of the initial MA holder for access to the registration dossier, (b) bibliographic data for substances in well-established use and (c) reference to the existing registration dossier without consent of the innovator. Only the last type will be addressed in the thesis analysis.

¹⁷ Directive 2001/83/EC (n 14) art 10(1).

¹⁸ Directive 2001/83/EC (n 14) art 10(1).

¹⁹ Directive 2001/83/EC (n 14) art 10(1).

or patient group for which the medicine is authorised, beyond the uses covered by the original marketing authorisation.

To understand these provisions and set out the current system of RDP, it is useful to begin with the definition of generic medicinal products, according to Article 10 of the Directive. A generic is a medicinal product that has the same qualitative and quantitative composition in active substances and the same pharmaceutical form as its reference medicinal product — that is, a product that has already received an MA according to the Articles 6 and 8 of the Directive.²⁰ The definition reflects and systematises earlier case law of the Court of Justice in the *Generics*, *Novartis* and *Approved Prescription Services* line of cases.²¹

To provide an example, the medicinal product containing the active substance atorvastatin was first marketed by Pfizer with the brand name “Lipitor”. After the expiry of the regulatory data and relevant IP protection periods, competitor companies used the product as a reference medicinal product to obtain marketing authorisations for their own versions of the same drug, relying on the clinical trial results provided by Pfizer. Often, generic names follow the combination of the International Non-Propriety Name of the substance and the pharmaceutical company’s name; examples of generics of Lipitor include Atorvastatin Teva and Atorvastatin Sandoz.

To practically summarise the abridged procedure: instead of engaging in time-consuming and costly pre-clinical and clinical trials for a medicinal

²⁰ Directive 2001/83/EC (n 14) art 10(2)(b).

²¹ See Trevor Cook, *Pharmaceuticals, Biotechnology and the Law* (2nd edn, LexisNexis Butterworths 2009) 450–60, discussing Case C-368/96 *R v Licensing Authority of the Department of Health, ex p Generics (UK) Ltd* ECR I-7967; Case C-106/01 *R (Novartis Pharmaceuticals UK Ltd) v Licensing Authority* ECR I-4403; and Case C-36/03 *R (Approved Prescription Services Ltd) v Licensing Authority* ECR I-11583.

product whose composition has already been shown to be safe and effective, companies may seek marketing authorisation by demonstrating that their product is bioequivalent to an already authorised reference product. In addition to the economic advantages, this abridged procedure reduces unnecessary repetitive studies on animals and humans, which is undesirable from an ethical point of view.²²

It is more than understandable that the abridged procedure, with its lighter R&D and administrative burden, must not significantly disadvantage the developer of the reference product, who demonstrated in detail the safety and efficacy of their medicine. This is even more true, given the substantial and unpredictable financial investment that goes into developing a novel medicinal product. Somehow, innovation must be rewarded and the originator must be given the opportunity to recoup their investment. In light of this, the EU legislator chose to award protection to the originator company's pre-clinical and clinical trial data, through the system that has come to be known as Regulatory Data Protection.

This framework consists of two periods: one of data exclusivity, during which generic applicants may not submit MA applications that rely on the data of the reference medicinal product, and one of market protection, during which medicinal products authorised by reference to other companies' products cannot be placed on the market. This system has come to be known as the "8+2(+1)" rule: eight years of data exclusivity, two years of market exclusivity, and a possible extension of one year where a new therapeutic indication for the originator medicinal product is approved and is held to bring

²² Cook (n 21) 415; Shorthose (n 15) 349.

significant clinical benefit in comparison with existing therapies.²³ The 8+2(+1) architecture is therefore the core of the current EU system of RDP.²⁴

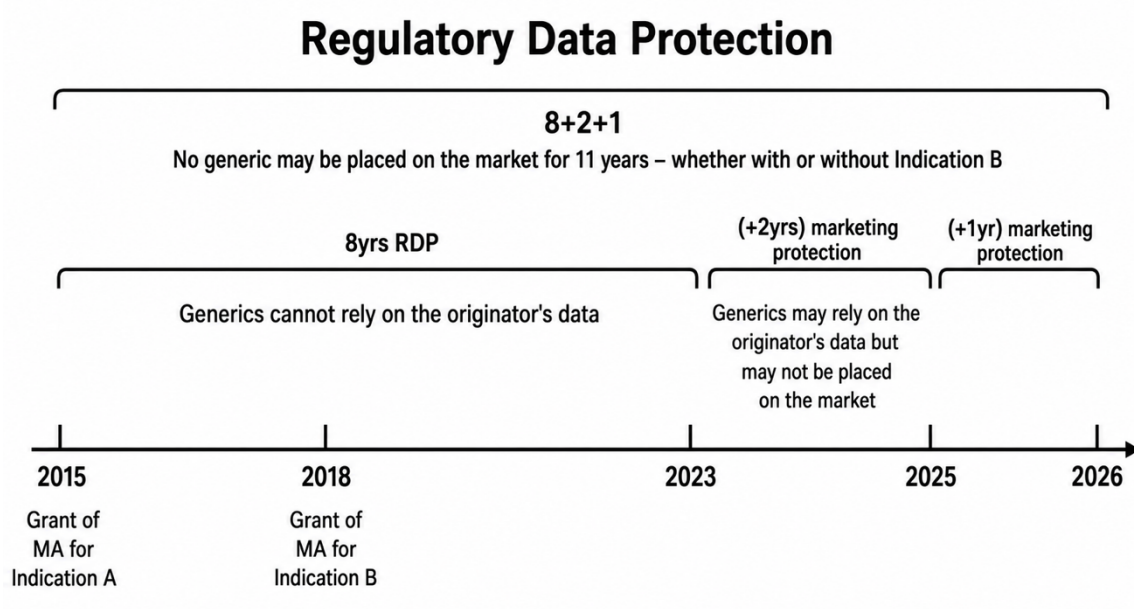


Figure 1. The 8+2(+1) formula of RDP. Generated through Perplexity AI.

At this point, an important distinction must be made, so as to accurately convey the concept of RDP. RDP must be distinguished from patent protection in the pharmaceutical sector, even though both forms of protection will, as a rule, run in parallel for a medicinal product. The common goal of

²³ Art 10(6) of Directive 2001/83/EC adds a further, more targeted incentive: where a new indication is approved for a well-established substance on the basis of significant pre-clinical or clinical studies, a non-cumulative one-year period of data exclusivity is granted. This protects only the data supporting the new indication and is distinct from the additional one-year market protection in the 8+2(+1) regime, which extends the overall period during which generics may not be placed on the market. As this mechanism plays only a marginal role in the present analysis, it will not be examined in this thesis.

²⁴ Throughout this thesis, “data protection” and “data exclusivity” are used interchangeably. The same applies for “market protection” and “market exclusivity”. “Regulatory Data Protection” is used to refer to the combined exclusivity.

both systems is to promote innovation by limiting competition and market entry through exclusivities.²⁵ However, patent protection is awarded as a result of the applicant proving the patentability requirements of an invention, whereas RDP is awarded after the applicant demonstrates the safety and efficacy requirements set by regulatory authorities for the marketing of a medicine.

There is a conceptual difference that sets RDP apart from patents in the logic behind the reward of exclusivity: instead of rewarding the original discovery, RDP grants exclusivity to the investment made in being the first to take a regulated product to market.²⁶ Furthermore, and unlike patents, RDP does not create a monopoly in the market: it prevents a competitor from referencing an originator's clinical trial data, not from submitting its own full stand-alone application with all the necessary scientific data in support of its own 'similar' medicinal product.²⁷ In that case, the competitor obtains its own independent period of regulatory data protection. It follows, therefore, that the strength of RDP depends on how complex and expensive it is for a third party to generate their own data.²⁸ Generally, such costs are high and thus prohibitive.²⁹

b. Legislative development of Regulatory Data Protection

The current framework of RDP did not emerge in a vacuum, but developed gradually in both international and EU law. Regulatory Data Protection is an internationally recognised form of regulatory exclusivity, whose origins can

²⁵ Margherita Colangelo, *Regulation, Innovation, and Competition in Pharmaceutical Markets* (Hart Publishing 2023) 34.

²⁶ Colangelo (n 25) 31.

²⁷ Maria Isabel Manley and Grant Strachan, 'Regulatory Data Protection' in Maria Isabel Manley and Marina Vickers (eds), *Navigating European Pharmaceutical Law* (Oxford University Press 2015) 257.

²⁸ Manley and Strachan (n 27) 257.

²⁹ Colangelo (n 25) 51.

be traced back to the Trade-Related Aspects of Intellectual Property Rights (“TRIPS”) Agreement of 1995. Already then was it evident that undisclosed data, which was generated by and supports a considerable effort, is worthy of protection against disclosure and unfair commercial use.³⁰

At EU level, the rule can be traced back to the original harmonising Directive in this sector, namely Directive 65/65/EEC, as amended by Directive 87/21/EEC.³¹ Under this regime, the applicant would not be obliged to carry out tests and trials once a specified period had elapsed since the grant of the original MA. This way, the Commission was looking to balance the interests of innovative (originator) and generic pharmaceutical companies, by introducing provisions allowing for generic applicants to refer to data contained in the registration dossiers after the expiry of a certain protective period.³²

The period of time initially proposed was ten years, in order to “enable the partial recovery of the research investment, which might not be protected otherwise, for example, by a patent”.³³ However, before final adoption, this was modified to six years. According to Directive 65/65/EEC, as amended by Directive 87/21/EEC, applicants could skip the submission of pre-clinical and clinical trial data, if they could demonstrate that their product was essentially similar to a product which had been authorised within the Community, for not less than six years, and was marketed in the Member State for which the application was made.³⁴ Directive 87/21/EEC also gave Member States the

³⁰ Agreement on Trade-Related Aspects of Intellectual Property Rights (adopted 15 April 1994, entered into force 1 January 1995) 1869 UNTS 299, art 39(3) ('TRIPS Agreement').

³¹ Cook (n 21) 437.

³² Shorthose (n 15) 354.

³³ Shorthose (n 15) 354.

³⁴ Council Directive 87/21/EEC of 22 December 1986 amending Directive 65/65/EEC on the approximation of provisions laid down by law, regulation or administrative action relating to proprietary medicinal products [1987] OJ L15/36, art 1.

option to extend this period to ten years by a single decision covering all products marketed on their territory, if considered necessary in the interest of public health.

The ten-year protection was later applied to certain high-technology products authorised through the centralised procedure, which had been established by Regulation No 2309/93 and was later replaced by Regulation No 726/2004.³⁵ The result was a differentiated landscape of regulatory protection periods within the EU: Member States that had exercised the option to extend protection applied a ten-year period, as did the centralised procedure; the remaining Member States applied only six years.

This fragmented landscape was harmonised by Directive 2001/83 as amended by Directive 2004/27/EC, which introduced the uniform 8+2(+1) regime across all Member States. Under this system, an originator product benefits from eight years of data exclusivity — during which no generic applicant may rely on its dossier — followed by two years of market exclusivity, with the possibility of an additional year where a new therapeutic indication bringing significant clinical benefit is approved.

³⁵ Council Regulation (EEC) No 2309/93 of 22 July 1993 laying down Community procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Agency for the Evaluation of Medicinal Products [1993] OJ L214/1, art 13(4); Regulation (EC) 726/2004 of the European Parliament and of the Council of 31 March 2004 laying down Union procedures for the authorisation and supervision of medicinal products for human and veterinary use and establishing a European Medicines Agency [2004] OJ L136/1, art 88.

2.2. Innovation challenges under the current framework

Throughout more than twenty years since the adoption of the latest framework, the intricate, multi-stakeholder field of RDP, has, unsurprisingly, witnessed heightened tensions between competing interests, reflecting the structural complexity of the EU pharmaceutical market itself. At the core of this tension lies a well-known but still insufficiently addressed problem: how to strike a balance between promoting innovation in novel medicinal products that deliver meaningful therapeutic advances, on the one hand, and ensuring that patients across the EU enjoy equal and timely access to medicines, on the other.

Regulatory data and market exclusivity can be considered as the main regulatory tools for stimulating innovation and developing medicines.³⁶ Primarily, the logic behind RDP is to reward companies that develop innovative medicinal products, by protecting the clinical data they generate to prove product safety and efficacy. From the outset, only data in support of a new medicinal product benefits from RDP, thus companies wishing to benefit accordingly concentrate their efforts on developing full dossiers for novel drugs.

The current RDP framework is tilted towards the innovation side of the scale: it sets a baseline period of data and market exclusivity, and an additional option for extension — securing a marketing authorisation for one or more new therapeutic indications that offer significant clinical benefit in

³⁶ PricewaterhouseCoopers, *Economic Footprint of the Pharmaceutical Industry in Europe* (Report for European Federation of Pharmaceutical Industries and Associations, November 2024); Tomislav Sokol, ‘The EU Pharmaceutical Package: Will It Strike a Balance Between Stimulating Research and Facilitating Equal Access?’ (2025) 21 *Croatian Yearbook of European Law and Policy* 53, 57.

comparison with existing therapies. The beneficiary enjoys a standard period of eight years of protection for its data, with a relatively uncomplicated but modest incentive to innovate further by securing an additional therapeutic indication and thereby receiving an extra year of data protection. By contrast, the framework contains no explicit mechanisms that link additional exclusivity to demonstrable improvements in patient access. Developers are not rewarded for facilitating wider or faster reach of their medicines to obtain longer protection for their clinical data. In the current framework, improvement in patient access is left largely to generic market entry, post expiration of regulatory protection. The modest option to extend exclusivity by one year for a new indication reflects the balancing exercise of the interests of the innovative and generic industries.³⁷

Despite the substantial advancements brought forward by the RDP rules — with Directive 2001/83/EC serving as the cornerstone that refined and consolidated these protections — the experience of the last two decades suggests that these measures alone remain insufficient to fully incentivise pharmaceutical innovation. In light of the rapid pace of technological and scientific progress, and the increasingly costly and tedious R&D processes required to develop novel active substances or combinations thereof, it is safe to say pharmaceutical innovation in the EU is facing a decline. Europe is currently lagging behind not only the United States, who have been the long-time frontrunner in both global R&D investment and approvals of new pharmaceuticals, but also China, where R&D spending grew by 20% per year on average, from 2010 to 2022.³⁸

To a large extent, it can be argued that the current challenges relating to pharmaceutical innovation in the EU can be concentrated around two

³⁷ Shorthose (n 15) 370.

³⁸ Sokol (n 36) 58-59.

interlinked themes: the dynamics of generic market entry and the resulting disincentives for R&D in certain therapeutic areas, and persistent unmet medical need, with particular emphasis on the lack of priority antimicrobials addressing antimicrobial resistance (AMR).

Apart from rewarding innovation companies, the rules on RDP also shape the behaviour of their competitors — the generic manufacturers whose products account for approximately 70% of all prescriptions dispensed across Europe.³⁹ The RDP rules pinpoint the moments that are crucial to pharmaceutical competition and market access: when originator protection ends, when generics may apply for authorisation via the abridged procedure, and when those generics may be placed on the market.⁴⁰ By enabling generic entry, the framework creates much-needed competition and thereby lowers medicine prices.⁴¹ Generics also play an invaluable role in patient access to medicines across the EU by making treatments available in more markets through multiple pharmaceutical options.

At the same time, though, the benefits enjoyed by generic companies can have negative consequences for originator-driven innovation. Once generics enter, they typically capture substantial market share in a short period of time, eroding originator revenues at precisely the moment when companies seek to recoup peak R&D investment, usually towards the end of patent protection. Rather than a gradual decline in originator sales post patent expiry, generics flood the market in just a few months and typically slash originator revenues, significantly constraining their future investment abilities.⁴² Furthermore,

³⁹ Clément François and others, 'New Pricing Models for Generic Medicines to Ensure Long-Term Sustainable Competition in Europe' (2023) 14 *Frontiers in Pharmacology* 1200641, 2.

⁴⁰ European Commission, *Communication on Pharmaceutical Reform and Antimicrobial Resistance (AMR)* COM(2023) 191 final, 7.

⁴¹ Colangelo (n 25) 16.

⁴² European Commission, 'Antitrust: Preliminary Report on Pharmaceutical Sector Inquiry Highlights Cost of Pharma Companies' Delaying Tactics' (Press release IP/08/1829, 28 November 2008) 2–3.

pharmaceutical companies tend to abandon early-stage innovation in therapeutic classes already dominated by generics, redirecting their efforts and capital into other areas. This pattern contributes to stagnant innovation in fields marked by major unmet medical need, including common infectious diseases, where widespread generic use has effectively commodified existing treatments and left very weak economic incentives for next-generation products despite continuing clinical demand.

A particularly prevalent example of unmet medical need and declining innovation is the case of antimicrobial resistance — the global health crisis of bacteria surviving and outpacing antimicrobials such as antibiotics, rendering standard treatments ineffective and causing 35.000 deaths per year in the EU.⁴³ AMR is one of the top three health threats faced by the EU and tackling it is one of the five main objectives of the revision of the EU pharmaceutical legislation. Yet the economic case for developing new antimicrobials remains weak. Courses of antimicrobials are typically short, as they are used by patients for one or two weeks, and resistance of bacteria to a new antibiotic treatment may emerge within five to ten years, resulting in limited and uncertain revenue for developers. Against this backdrop, the market has seen a wave of major pharmaceutical companies exit antibiotic R&D, and only a very small number of new antibiotic classes have been introduced in recent decades. Between 1940 and 1962, more than twenty new classes of antibiotics were brought to market, whereas recent World Health Organization (WHO) analyses indicate that only two of the antibiotics authorised since 2017 represent a new chemical class.⁴⁴

⁴³ European Centre for Disease Prevention and Control, *Assessing the Health Burden of Infections with Antibiotic-Resistant Bacteria in the EU/EEA, 2016–2020* (ECDC 2022).

⁴⁴ World Health Organization, *2023 Antibacterial Agents in Clinical and Preclinical Development: An Overview and Analysis* (WHO 2024) 5; Anthony RM Coates, Gerry Halls and Yanmin Hu, ‘Novel classes of antibiotics or more of the same?’ (2011) 163 *British Journal of Pharmacology* 184.

2.3. The revised Regulatory Data Protection framework under the EU Pharma Package

As introduced above, the initial EU Pharma Package proposals for a Directive and a Regulation were published in April 2023. Between the initial proposals and the finalised trilogue texts made public in March 2026, the provisions on RDP underwent significant revision, signalling intense debate during the trilogue negotiations. It is therefore useful to set out the initial framework before analysing the final version pending adoption.

Already in the introductory explanatory memorandum of the 2023 Directive, the Commission acknowledges the shortcomings of regulatory incentives for innovation under the existing legal framework: innovation is not always focused on unmet medical needs and market failures persist, especially regarding the development of priority antimicrobials to address antimicrobial resistance.⁴⁵ The objective of balancing innovation and access is central to the proposal for the new pharmaceutical legislation; the “*right balance*” must be struck between giving incentives for innovation, with more focus on unmet medical needs, and measures promoting access and affordability.⁴⁶ Additionally, achieving an attractive, innovation and competitiveness-friendly environment for research, development and production of medicines in Europe constitutes one of the four specific objectives of the reform.⁴⁷ As part of its ex-post evaluations and fitness checks of the existing legislation, the Commission held that “*the regulatory system does not sufficiently cater for innovation*”.⁴⁸

⁴⁵ Commission, *Proposal for Directive 2023* (n 5) 1.

⁴⁶ Commission, *Proposal for Directive 2023* (n 5) 2.

⁴⁷ Commission, *Proposal for Directive 2023* (n 5) 2.

⁴⁸ Commission, *Proposal for Directive 2023* (n 5) 8.

As opposed to the current framework, the 2023 Directive elevates RDP by giving it a dedicated title in Chapter VII, “Regulatory protection, unmet medical needs and rewards for paediatric medicinal products”, rather than embedding the rules within the provision on reference medicinal products, as Article 10 of Directive 2001/83 did. Under this Chapter, data exclusivity would be reduced from eight to six years, but this would remain competitive according to the legislator, “*given what other regions offer*”.⁴⁹ MA holders would then benefit from additional data protection by (i) launching the product in all Member States covered by the MA (+two years), (ii) addressing unmet medical needs (+six months), (iii) conducting comparative clinical trials (+six months) and (iv) obtaining an additional therapeutic indication (+one year).⁵⁰

The two-year extension would apply on condition that the medicinal product is supplied in accordance with the needs of the Member States concerned within two years from the MA. In turn, the unmet medical need extension would be available where there is no authorised alternative treatment for the disease, or where, despite such treatment, the disease remains associated with high morbidity or mortality, and the use of the new product results in a meaningful reduction in disease morbidity or mortality.⁵¹ This “criterion-based definition” of UMN would be further specified through implementing acts based on scientific evidence by the EMA.⁵²

Beyond data protection, the 2023 Directive proposal preserved the two-year period of market exclusivity, while allowing the total period of RDP (data-, market-exclusivity and extensions) for an innovative medicine to reach up to twelve years, including one year for a new therapeutic indication.⁵³ This

⁴⁹ Commission, *Proposal for Directive 2023* (n 5) 16.

⁵⁰ Commission, *Proposal for Directive 2023* (n 5) arts 80-83.

⁵¹ Commission, *Proposal for Directive 2023* (n 5) art 83(1).

⁵² Commission, *Proposal for Directive 2023* (n 5) art 83(3).

⁵³ Commission, *Proposal for Directive 2023* (n 5) art 80(2).

structure, with its twelve-year cap on total RPD, means that the 2023 framework allowed for up to four years of conditional data-protection extensions in addition to the six-year baseline period.

The 2023 Regulation proposal complemented these changes with RDP-related incentives in the form of the Transferable Data Exclusivity Vouchers (TEVs). Under Chapter III of the Regulation, entitled “Incentives for the development of Priority Antimicrobials”, a MA for a priority antimicrobial — defined in Article 40(3) — can be granted together with a voucher conferring an additional twelve months of data protection under the Directive.⁵⁴ For the voucher to be granted, the applicant must demonstrate the capacity to supply the antimicrobial in sufficient quantities to ensure the expected needs of the Union market and disclose all direct financial support received for its R&D. The voucher would be usable only once, either on the priority antimicrobial itself or on another medicinal product of the same or different MA holder, thus ensuring full transferability.

Through the trilogue discussions between the Commission, the Parliament and the Council, these 2023 proposals were substantially amended, resulting in final compromise texts for a Directive and a Regulation, published in March 2026.⁵⁵ The finalised RDP framework takes the following form.

First, regulatory data protection is retained at eight years from the date of grant of the MA. Transferable Exclusivity Vouchers may provide an additional year of protection, according to Article 41(1) of the compromise

⁵⁴ European Commission, *Proposal for a Regulation of the European Parliament and of the Council laying down Union procedures for the authorisation and supervision of medicinal products for human use and establishing rules governing the European Medicines Agency, amending Regulation (EC) 1394/2007 and Regulation (EU) 536/2014 and repealing Regulation (EC) 726/2004, Regulation (EC) 141/2000 and Regulation (EC) 1901/2006* COM(2023) 193 final (26 April 2023), 69.

⁵⁵ Council of the European Union, *Directive on the Union Code Relating to Medicinal Products for Human Use* (Final compromise text, ST 6367/2026 INIT, 24 February 2026).

text of the Regulation. By contrast, market protection has been reduced from two to one year. Most significantly, the incentives for prolonging exclusivity are shifted from regulatory data protection to regulatory market protection, which may now be prolonged by twelve months under the following alternative, rather than cumulative conditions:⁵⁶

- (a) Where the MA applicant demonstrates at the time of the initial MA application that the medicinal product addresses an unmet medical need as referred to in Article 83 of the Directive; or
- (b) For medicinal products containing a new active substance, where the MA applicant demonstrates that:
 - i. the clinical trials supporting the initial MA application use a relevant and evidence-based comparator in accordance with the scientific advice provided by the Agency; and
 - ii. the MA application has been first submitted to the competent authority in the Union or has been submitted no later than 90 days after the submission for the first MA outside the Union; or
- (c) For medicinal products containing a new active substance, where the MA applicant demonstrates that:
 - i. (b)(i) above; and
 - ii. clinical trials evaluating the efficacy of the medicinal product and used for the MA were conducted in more than one Member State; or
- (d) For medicinal products containing a new active substance, where the MA applicant justifies that a clinical trial using the relevant and evidence-based comparator referred to in (b)(i) and (c)(i) is not possible or appropriate and demonstrates:

⁵⁶ Council, *Final Compromise Text for Directive 2026* (n 55) arts 80–81.

- i. (c)(ii) above; and
- ii. (b)(ii) above.

In addition, market exclusivity can be prolonged by one year where the MA holder obtains an MA for one or more new therapeutic indications that are expected to bring a significant clinical benefit in comparison with existing therapies.⁵⁷ This extension may only be granted once.

The cumulative duration of market protection must not exceed two years from the expiry of data protection, excluding the separate one-year extension for a new therapeutic indication.⁵⁸ Read together with the alternative nature of the above conditions — signalled by the repeated use of “or” to separate them — the two-year cap on market exclusivity means that a product can benefit from one only of these extensions, which is then added to the baseline year of market exclusivity. Article 81(5a) of the Directive further requires national competent authorities to publish on their websites a list of nationally authorised medicinal products that are subject to RDP, indicating any applicable prolongations under Article 81, with the Agency compiling and publishing a list of the corresponding hyperlinks.⁵⁹

⁵⁷ Council, *Final Compromise Text for Directive 2026* (n 55) art 81(2a).

⁵⁸ Council, *Final Compromise Text for Directive 2026* (n 55) art 81(2b).

⁵⁹ Council, *Final Compromise Text for Directive 2026* (n 55) art 81(5a).

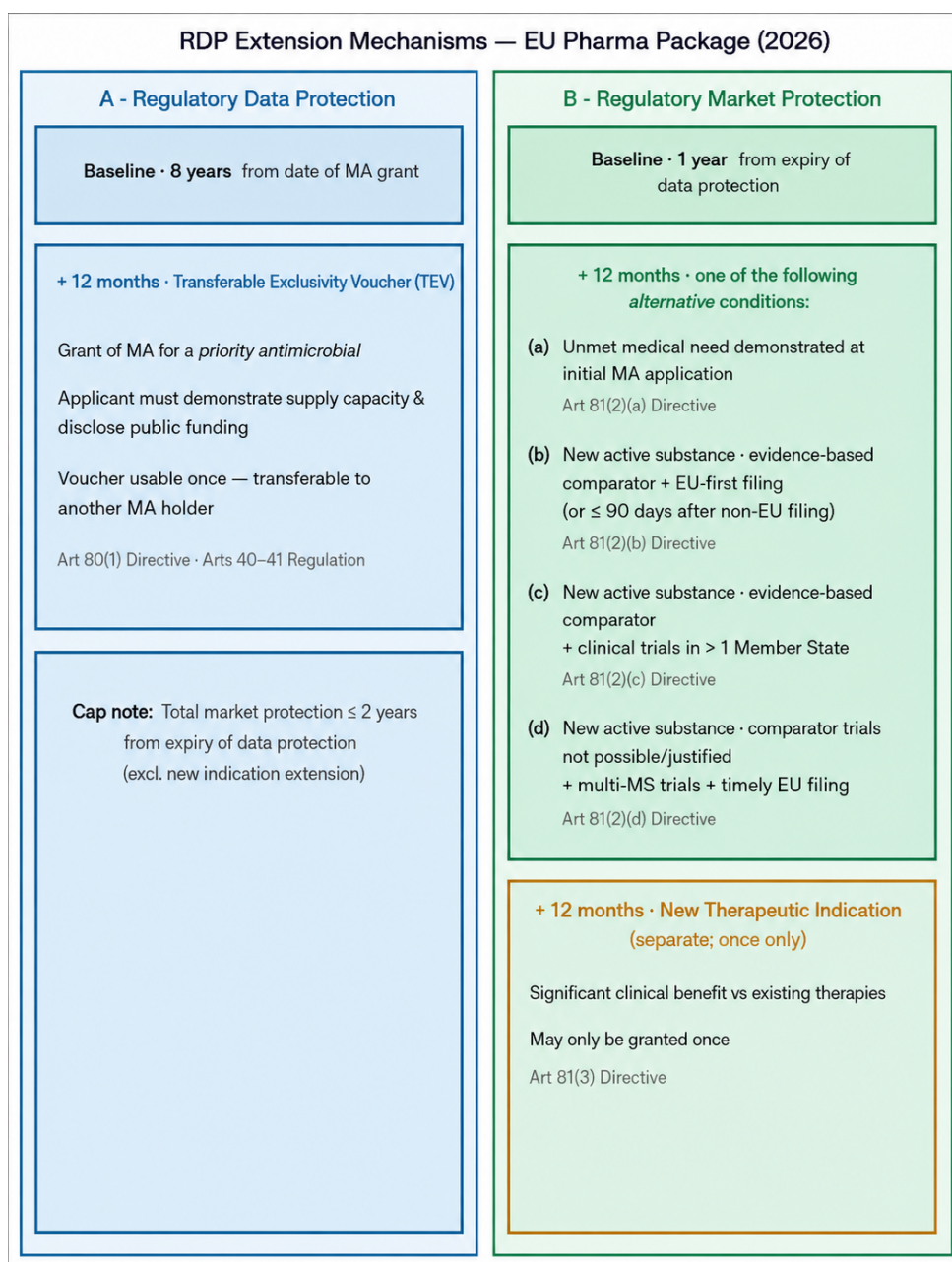


Figure 2. The Pharma Package RDP Framework. Generated through Perplexity AI.

Taken as a whole, the Pharma Package reform moves the RDP framework away from a one-size-fits-all system with standardised protection periods towards a more targeted model with conditional extensions.⁶⁰ These new conditions require medicine developers to deliver on specified public health objectives to benefit from prolonged exclusivity. Amongst the various conditionalities introduced in the new Directive and Regulation, the thesis will engage in an analysis of two: the unmet medical need extension for an additional year of market exclusivity and the transferable exclusivity voucher mechanism for an additional year of data exclusivity.

3. RDP Extension: Unmet Medical Need

Chapter 2 presented the shift from the uniform 8+2+1 regulatory protection structure to a modular framework where RDP can be prolonged by satisfying specific conditionalities, including an extension related to unmet medical need. The new Directive provides a horizontal definition of unmet medical need (UMN) — a legal concept intended to function as a central normative concept for steering innovation and R&D towards serious, underserved disease areas. Against this background, the present Chapter examines the UMN RDP extension in detail, analysing the criteria laid down in Articles 81 and 83 of the new pharmaceutical Directive, the way in which the UMN condition operates, and its place within broader exclusivity architecture. The Chapter concludes by evaluating the mechanism's legal certainty and its structural design as an incentive.

⁶⁰ Commission, *Communication on Pharmaceutical Reform and AMR* (n 40) 9.

3.1. Unmet Medical Need as a conditional RDP extension

The prolongation of a medicinal product's RDP period on the grounds of addressing an unmet medical need (UMN) constitutes the first conditional incentive for innovation in the revamped RDP framework.⁶¹ This comes as no surprise: the 2020 Pharmaceutical Strategy for Europe identifies addressing UMN as one of its four main objectives, making its incorporation into the conditionality architecture of the new framework a direct expression of that policy commitment.⁶²

According to Article 81 of the Directive, a product's regulatory market protection will be extended by twelve months, where the MA applicant demonstrates at the time of the initial MA application that the product addresses an unmet medical need as referred to in Article 83.⁶³ The latter defines medicines addressing UMN and mandates the EMA to adopt scientific guidelines to support the application of the Article, upon consultation of the Commission and the authorities or bodies and stakeholders referred to Article 162 of the new Regulation.

The first mention of UMN in the Pharma Package is in the explanatory memorandum to the 2023 Proposal for the Directive. From the outset, the Union legislator notes that the elements of the criteria making up the definition of UMN will be further specified through implementing acts, based on scientific input of the EMA.⁶⁴ Additionally, the proposal mentions that companies developing and marketing medicines that address UMN will

⁶¹ Sokol (n 36) 62.

⁶² Commission, *Pharmaceutical Strategy for Europe* (n 4) 3-4.

⁶³ Council, *Final Compromise Text for Directive 2026* (n 55) 81.

⁶⁴ Commission, *Proposal for Directive 2023* (n 5) 16.

benefit from the EU PRIME enhanced scientific and regulatory support scheme.⁶⁵

It is important as a starting point to emphasise that UMN in the Pharma Package is not merely descriptive policy language, but a legal threshold that determines access to additional exclusivity. Whether a product addresses a UMN is assessed by the competent regulatory authority during evaluation of the MA application. The concept of UMN is not new, and already enables, to a certain extent, regulatory flexibilities supporting the development and evaluation of medicines targeting such needs.⁶⁶

The attempt of the Pharma Package to provide a sufficient legal definition of this inherently open ended concept is ambitious but has been met with scepticism by the industry, already from the 2023 proposals.⁶⁷ Going further still and conditioning additional, highly-coveted exclusivity on fulfilling such a concept raises particularly acute questions of legal certainty and predictability, making it a compelling subject for doctrinal analysis.

⁶⁵ Commission, *Proposal for Directive 2023* (n 5) 16.

⁶⁶ Io Wens, Zilke Claessens, Alice Vanneste, Liese Barbier, Rosanne Janssens and Isabelle Huys, 'Unmet Medical Needs Definition and Incentives: Stakeholders Perspectives on the Reform of the EU Pharmaceutical Legislation' (2024) 11 *Frontiers in Medicine* 1506243, 2.

⁶⁷ European Federation of Pharmaceutical Industries and Associations, *The Commission's Criteria to Define Unmet Medical Need and High Unmet Medical Need: Implications of a Proposed Incentive Framework* (EFPIA 2023).

3.2. Definition and operation of Unmet Medical Need

a. Legal Definition of Unmet Medical Need

The revised pharmaceutical legislation establishes a horizontal definition of unmet medical need in Article 83 of the Directive, serving as the reference point for the extension of RDP, which is the main object of the current analysis, as well as for determining eligibility to specific regulatory pathways, such as granting of a conditional MA, and inclusion in the PRIME Scheme for priority medicines.⁶⁸

The conditions set forward by Article 83 for a medicinal product to be considered as addressing an UMN are the following. First, at least one of its therapeutic indications must concern a “*life threatening or severely debilitating disease*”. In addition, one of two alternative criteria must be met: either no medicinal product is authorised in the Union for that disease, or use of the product seeking authorisation results in “*clinically relevant improvement in efficacy, or in safety with at least comparable efficacy*” in comparison with existing medicinal products or other methods of diagnosis, prevention or treatment authorised in the Union.⁶⁹ Furthermore, Article 83 expressly expands the concept of UMN by providing that designated orphan medicinal products (referred to in Article 67 of the proposed Regulation) are deemed to address an UMN.⁷⁰

⁶⁸ Council, *Final Compromise Text for Directive 2026* (n 55) art 81; Council, *Final Compromise Text for a Regulation of the European Parliament and of the Council laying down Union Procedures for the Authorisation and Supervision of Medicinal Products for Human Use and Establishing Rules Governing the European Medicines Agency*, ST 6366/2026 INIT (24 February 2026) arts 19, 60; Dolon Ltd, *Revision of the General Pharmaceutical Legislation: Impact Assessment of European Commission and EFPIA Proposals* (report commissioned by EFPIA, November 2023) 6.

⁶⁹ Council, *Final Compromise Text for Directive 2026* (n 55) art 83(1).

⁷⁰ Council, *Final Compromise Text for Directive 2026* (n 55) art 83(2).

The recitals of the proposed Directive make direct mention of the need to establish a criteria-based definition of UMN, so as to incentivise the development of medicinal products in therapeutic areas that are currently underserved.⁷¹ With aim to ensure that the notion of UMN reflects scientific and technological developments, as well as current knowledge, the EMA shall produce scientific guidelines for specifying the conditions concerning “*clinically relevant improvement in efficacy or in safety with at least comparable efficacy*”. The guidelines should cover clinical efficacy endpoints such as survival, symptoms and health-related quality of life, and clinical safety endpoints such as side effects, providing further technical details regarding their assessment.⁷² For the purpose of creating these guidelines, the EMA shall consult authorities and bodies active along the medicine lifecycle, relevant stakeholders, including patient populations, and take into account relevant scientific initiatives at EU or inter-MS level.⁷³ This inclusive and iterative approach reflects the legislator's intent to keep the UMN mechanism scientifically current and responsive to the perspectives of those most directly affected by underserved diseases.

An interesting development in the definition of UMN can be ascertained from the changes in Article 83 between the 2023 Directive Proposal and the 2026 Compromise Text. The definition proposed in 2023 required such products to have at least one therapeutic indication relating to a life threatening or severely debilitating disease, as well as the cumulative fulfilment of two conditions.⁷⁴ The first is the non-existence of a medicinal product authorised in the Union for the disease in question, or alternatively, despite the existence

⁷¹ Council, *Final Compromise Text for Directive 2026* (n 55) recital 81.

⁷² Council, *Final Compromise Text for Directive 2026* (n 55) recital 50.

⁷³ Council, *Final Compromise Text for Directive 2026* (n 55) recital 50.

⁷⁴ Commission, *Proposal for Directive 2023* (n 5) art. 83.

of such products, the disease continuing to be “*associated with a remaining high morbidity or mortality*”. The second condition is that the use of the medicinal product results in a “*meaningful reduction in disease morbidity or mortality for the relevant patient population*”. However, the same Article in the compromise text of 2026 changes the fulfilment of the conditions from cumulative to alternative: either the product for the specific disease is completely unique (no other is authorised), or its use results in “*clinically relevant improvement in efficacy, or in safety with at least comparable efficacy*”, in comparison with other product or methods authorised in the Union.⁷⁵ How clinically relevant improvement in efficacy or safety will be determined in practice remains to be elaborated through; however, it is evident from a textual comparison that the definition has moved away from open-ended terms (“*high*” morbidity, “*meaningful*” reduction) towards a scientific comparator framework.

Prior to the EU Pharma Package Proposal, UMN was defined in Article 4 of Commission Regulation (EC) No 507/2006 on conditional marketing authorisation within the scope of Regulation No 726/2004.⁷⁶ A conditional MA can be granted for certain types of medicinal products on the basis of incomplete data, subject to strict follow-up obligations.⁷⁷ This procedure can apply to medicines regarding seriously debilitating or life-threatening diseases, emergency situations, or orphan medicinal products — which target rare diseases.⁷⁸ One of the requirements for the granting of a conditional MA is the fulfillment of unmet medical needs.⁷⁹ To this end, Article 4 of the Regulation states that “For the purposes of paragraph 1(c), ‘unmet medical

⁷⁵ Council, *Final Compromise Text for Directive 2026* (n 55) art. 83.

⁷⁶ Wens et al. (n 66).

⁷⁷ Regulation No 726/2004 (n 35), art 14(7).

⁷⁸ Commission Regulation (EC) No 507/2006 of 29 March 2006 on the conditional marketing authorisation for medicinal products for human use falling within the scope of Regulation (EC) No 726/2004 of the European Parliament and of the Council [2006]OJ L92/6, art 2(1).

⁷⁹ Commission Regulation No 507/2006 (n 78) art 4.

needs’ means a condition for which there exists no satisfactory method of diagnosis, prevention or treatment authorised in the Community or, even if such a method exists, in relation to which the medicinal product concerned will be of major therapeutic advantage to those affected.” In the new Regulation, Article 19 dictates that conditional MAs are granted on the grounds of fulfilment of UMN as defined in Art 83 of the new Directive, clearly linking the procedure of conditional MAs to the new definition.⁸⁰

It is evident that both the 2023 and 2026 versions of the new UMN definition of the Pharma Package are built upon the existing definition of Regulation No 507/2006. Firstly, all three versions incorporate the element of unavailability of other medicines for the disease in question: while the definition of Regulation 507/2006 refers to the unavailability of “satisfactory” diagnosis, prevention or treatment, the new definition in 2023 chose the term “medicinal product”, requiring either unavailability of EU-authorised medicinal products for the specific disease, or, in case other medicines are available, a remaining high morbidity or mortality.⁸¹ The latter could be read as an explanation of “*satisfactory*”. Interestingly, the 2026 final version adopted a stricter approach, restricting the criterion to the unavailability of any other medical products for the disease in question.

Secondly, all three definitions include a condition referring to the effectiveness of the medicine addressing an UMN. In case other methods against the same disease exist, the 2006 definition requires the medicine to have a “major therapeutic advantage to those affected”. The 2023 formulation requires that the medicine results in a “meaningful reduction in disease morbidity or mortality for the relevant patient population”, as mentioned in

⁸⁰ Council, *Final Compromise Text for Regulation 2026* (n 68) art 19.

⁸¹ Commission Regulation No 507/2006 (n 78) art 4 (2); Commission, *Proposal for Directive 2023* (n 5) art 83; Council, *Final Compromise Text for Directive 2026* (n 55) art. 83.

the first condition. The 2026 definition seems closer to that of 2006, by requiring the medicine to result in “clinically improved efficacy or safety” (with at least comparable efficacy), when compared to existing products or methods.

For a more complete depiction of the legislative environment surrounding the new UMN definition in the Pharma Package, one must also look at the influence of orphan medicines legislation. The first criterion for designating a medicinal product as orphan, according to Regulation (EC) No 141/2000, requires proving that it is intended for a life-threatening or chronically debilitating condition that either affects not more than five in ten thousand persons in the EU, or, independently of statistics, that its marketing would likely fail to generate sufficient return to justify the necessary investment without incentives.⁸² The notion of “*life threatening or severely debilitating diseases*” thus underpins several key definitions and frameworks relevant to UMN. The second requirement for an orphan medicinal product follows almost the exact same wording as the UMN definition in Regulation 507/2006: no satisfactory existing method of diagnosis, prevention or treatment of the condition targeted, or, where such a method exists, the product resulting in “significant benefit to those affected”.⁸³

The connection between the notion of UMN and orphan medicines extends further, as Article 63 of the new Regulation replaces its predecessor in Regulation No 141/2000, but maintains the same, UMN-adjacent definition of orphan medicines.⁸⁴ Additionally, the Regulation establishes a new category of orphan medicines, named “*breakthrough orphan medicinal*

⁸² Regulation (EC) No 141/2000 of the European Parliament and of the Council of 16 December 1999 on orphan medicinal products [2000] OJ L18/1, art 3.

⁸³ Regulation 141/2000 (n 82) art 3.

⁸⁴ Council, *Final Compromise Text for Regulation 2026* (n 68) art 63.

products”. The criteria of their definition are once again almost identical to the definition of UMN in the 2023 Directive proposal: no other medicinal product authorised for the condition in question, and a clinically relevant reduction in disease morbidity or mortality for the affected population.⁸⁵ Notably, while these morbidity and mortality criteria were fully removed from the definition of UMN in Article 83 of the 2026 compromise text of the Directive, they were retained within the breakthrough orphan definition in the Regulation.

It is clear from the above that the definition of UMN in the Pharma Package constitutes an amalgamation of provisions and frameworks developed for situations of limited treatment options and meaningful therapeutic advancement. The successive iterations and evolution of the criteria-based definition of UMN reflect the tense debate and considerations between all the stakeholders in healthcare: EU bodies, pharmaceutical companies, researchers, end users and healthcare professionals have aligned but also clashing interests, and this is also clear in the attempt to legally define a notion with angles in several types of fields: legal/doctrinal, clinical/medical, health policy, regulatory.

In summary, the UMN definition in the Pharma Package rests on two main pillars: the targeting of a life threatening or severely debilitating disease, for which there is an absence of authorised products, or a *clinically relevant improvement in efficacy or safety* resulting from the use of the product. The criteria have been progressively sharpened across successive legislative iterations, moving towards more concrete, scientifically comparable terms, though the scope for interpretive variation remains and is intended to be addressed through EMA guidelines. The automatic inclusion of orphan

⁸⁵ Council, *Final Compromise Text for Regulation 2026* (n 68) art 70.

medicinal products further aligns UMN with the Union's rare-disease framework.

b. Operation of the UMN condition for RDP Extension

Having examined the definition of products addressing an unmet medical need under Article 83 of the new Directive, the analysis now turns to the operation of UMN as a conditional extension of regulatory protection, focusing on the procedural mechanics and practical effect of the conditionality mechanism.

As already mentioned, medicinal products addressing an UMN as defined in Article 83 can obtain an additional twelve months of regulatory market protection, according to Article 81.⁸⁶ The wording of the latter requires the MA applicant to demonstrate, already at the time of the initial MA application, that the product in question fulfills the criteria of Article 83. This demonstration is made to the competent regulatory authority: for centrally authorised products, the EMA's Committee for Medicinal Products for Human Use (CHMP) conducts the scientific evaluation and adopts an opinion on whether the product meets the Article 83 criteria; for nationally authorised products, the relevant national competent authority undertakes that assessment. The CHMP is responsible for conducting scientific evaluations of MA applications and adopts a positive or negative opinion, based on which the Commission decides whether to grant or refuse the MA for a product. According to Article 12 of the new Regulation, a positive CHMP opinion must include, where applicable, reasoning as to whether the medicinal

⁸⁶ Council, *Final Compromise Text for Directive 2026* (n 55) art 81.

product satisfies the criteria of Article 83 for UMN.⁸⁷ The CHMP also conducts scientific evaluation in referral procedures (divergent national decisions on MAs, harmonisation of SmPCs, safety issues. etc.), and its opinion in such procedures may equally include an assessment of whether the product satisfies the conditions of Article 83. Where that is the case, the Agency is required to inform the applicant of the CHMP's opinion without due delay, according to Article 41 of the new Directive.⁸⁸

Regarding the assessment of the UMN criteria in practice, the final paragraph of Article 83 requires the EMA to consult with the Commission and the authorities and stakeholders listed in Article 162 of the new Regulation to adopt scientific guidelines in support of the application of Article 83.⁸⁹ Article 162 of the Regulation, in turn, requires the EMA to establish a consultation process with relevant national authorities and bodies, including bodies responsible for health technology assessment within the meaning of Regulation No 2021/2282 and national pricing and reimbursement bodies, as well as — where appropriate — patients, medicine developers, healthcare professionals and other stakeholders.⁹⁰ The legislator expressly designates the development of scientific guidelines for the UMN definition as a context in which this broader consultation is appropriate, reflecting the recognition that UMN is not purely a regulatory concept but one with direct implications across the medicine lifecycle.

An important element of the process for obtaining the prolongation of RDP is the explicit requirement to prove the UMN criteria at the time of the initial MA application.⁹¹ It can be ascertained from the specific wording that the

⁸⁷ Council, *Final Compromise Text for Regulation 2026* (n 68) art 12(4)(mb).

⁸⁸ Council, *Final Compromise Text for Directive 2026* (n 55) art 41.

⁸⁹ Council, *Final Compromise Text for Directive 2026* (n 55) art 83.

⁹⁰ Council, *Final Compromise Text for Regulation 2026* (n 68) art 162.

⁹¹ Council, *Final Compromise Text for Directive 2026* (n 55) art 81(2)(a).

legislative intent is for the exclusivity benefit to come into effect only based on the first evidence brought forward by the applicant, not on late-coming data. The clinical data supporting an application for a standard MA must therefore demonstrate the fulfilment of the criteria in Art 83.

The extension of RDP for a product with a conditional MA functions slightly differently, since UMN here functions both as a necessary condition for the granting of a conditional MA, and simultaneously as a condition for additional RDP. As noted above in Chapter 3.2.a, conditional MAs are granted to medicinal products that are likely to address an UMN in accordance with Article 83(1) of the new Directive, if the benefit of the immediate availability of a product on the market outweighs the risk inherent in the fact that additional clinical data are still required.⁹² The holder of a conditional MA is subject to specific obligations, including the completion of ongoing studies or the conduct of new studies, in order to confirm a favourable risk-benefit balance.⁹³ The applicant for a conditional MA must therefore demonstrate that, despite the absence of comprehensive clinical data at the time of application, the product is nonetheless likely to address a UMN.

The legislator has, however, determined that this showing alone does not suffice to trigger the additional RDP extension. Article 81 of the Directive dictates that two conditions must be fulfilled.⁹⁴ First, the medicine must have been granted a standard MA within four years of the granting of the conditional MA, pursuant to Article 19(7) of the new Regulation — meaning that all obligations to complete or conduct studies undertaken as conditions of the conditional MA must have been discharged.⁹⁵ Second, for products

⁹² Council, *Final Compromise Text for Regulation 2026* (n 68) art 19.

⁹³ Council, *Final Compromise Text for Regulation 2026* (n 68) art 19(4).

⁹⁴ Council, *Final Compromise Text for Directive 2026* (n 55) art 81.

⁹⁵ Council, *Final Compromise Text for Regulation 2026* (n 68) art 19.

deemed to address UMN on the basis of *clinically relevant improvement in efficacy or safety* (as opposed to the absence of alternatives), the studies referred to in Article 19(4) of the new Regulation must include clinical trials using, where possible and appropriate, a relevant and evidence-based comparator.⁹⁶ It follows therefore that the efficacy or safety argued in support of UMN status under Article 83 of the Directive and a conditional MA under Article 19 of the Regulation must ultimately be substantiated by comparative clinical data within a defined timeframe, for the additional RDP extension to enter into force.

3.3. Systematic view: the UMN extension within the broader revised framework

After examining the definition of UMN and its operation as an RDP extension in the renewed framework, it is useful to assess its place amongst the other mechanisms of that framework. The condition does not exist in a vacuum, but rather within a detailed web of incentives for extending data and market exclusivity.

A first comparison between the UMN extension and the other conditionalities can be made on the basis of their object and the conduct that is rewarded. UMN and TEVs for priority antimicrobials are the only mechanisms that are need-based, granting exclusivity on the grounds of a normative public health category. Pharmaceutical companies are rewarded for developing either medicinal products that are the first to target serious diseases or constitute significantly improved alternatives to existing methods, or priority antimicrobials with significant clinical benefit in the context of antimicrobial

⁹⁶ Council, *Final Compromise Text for Directive 2026* (n 55) art 81.

resistance — as will be analysed later in Chapter 4 — in alignment with specific conditions and the World Health Organization’s priority lists. Conversely, the other options reward a procedural or evidentiary aspect: the quality and comparative relevance of the clinical trials conducted, the number of Member States in which those trials are conducted, the prioritisation of the EU as the forum for the MA application, or the timely filing at EU level following a filing outside the Union. In this light, the UMN extension can serve as a strategic vantage point in the early stages of pharmaceutical R&D, encouraging developers to invest in disease areas that have been highlighted by the Union and international organisations as underserved. The prospect of an additional year of market exclusivity — a highly desirable commercial benefit — may constitute a sufficient inducement for undertaking the costly R&D investments that such areas demand.

A second comparison can be drawn on the point of duration. In the final compromise text of the Directive, all RDP extensions provide equal prolongation of market protection, or data protection, in the case of TEVs — for a period of twelve months.⁹⁷ This was not the case in the 2023 Proposal. The conditional launch obligation requiring continuous supply to all MA-covered Member States, which was ultimately removed from the final compromise text, would have granted twenty four months of additional data protection to a medicinal product.⁹⁸ The extension for a new therapeutic indication with significant clinical benefit provided twelve months of additional data protection, a provision that was carried over unchanged into the final compromise text.⁹⁹ Notably, however, the extensions for UMN and evidence-based comparators in clinical trials each yielded a more modest six months of additional data protection under the 2023 Proposal.¹⁰⁰ Read

⁹⁷ Council, *Final Compromise Text for Directive 2026* (n 55) art. 81.

⁹⁸ Commission, *Proposal for Directive 2023* (n 5) art 81(2)(a).

⁹⁹ Commission, *Proposal for Directive 2023* (n 5) art 81(2)(d).

¹⁰⁰ Commission, *Proposal for Directive 2023* (n 5) art 81(2)(b) and (c).

together, these figures suggest that UMN was initially conceived as a less powerful incentive compared to the other mechanisms. However, the alignment of its duration with the other initiatives at twelve months in the final text, combined with the removal of the supply and launch conditionality altogether, signals a deliberate levelling of the incentive hierarchy: no single extension mechanism is now formally privileged over another in terms of duration.

A third point of comparison concerns interaction with access and equity. The extension mechanisms of UMN and TEVs constitute R&D incentives for commercially unattractive but socially high-priority therapeutic areas, aiming to ensure that innovation benefits extend to neglected patient groups. The same logic applies to TEVs, which address market failures in antimicrobials and the public health threat of AMR. By contrast, the conditionalities on clinical trials and timely EU filing are closer to binary, documentary requirements, aimed at avoiding late EU market entry and ensuring higher-quality, more clinically relevant evidence for EU populations. While UMN and TEV primarily attend to equity in terms of the disease areas and patient groups that innovation is directed towards, the other conditions are more focused on the procedural quality of evidence and the timeliness of product availability within the Union.

A fourth and final observation concerns the interaction between the UMN extension and the comparative evidence conditions, which are more closely connected than they may initially appear. The legislator has drawn an explicit link between UMN and comparative evidence in the conditional MA context, as already noted in Chapter 3.2. The use of comparative clinical evidence is therefore simultaneously a defining criterion of the separate RDP extension conditions under Articles 81(2)(b) and (d), and a requirement for substantiating UMN under Article 83. This overlap has a significant practical consequence. A product that relies on comparative evidence to establish

UMN cannot at the same time use that same demonstration to satisfy one of the comparator-based conditions Article 81, given that only one of those alternative conditions may be used to obtain the twelve-month extension. In practice, a developer proving UMN through clinically relevant improvement in efficacy or safety is directed towards the UMN extension route and cannot combine it with a comparator-based extension. This confirms that the framework, despite equalising the duration of all extensions, is carefully structured to prevent double-counting and the accumulation of extensions through overlapping conditions.

3.4. Evaluating the UMN Extension: Certainty and Design

Following the analysis of the definition of UMN across relevant legislative frameworks and the operation of the corresponding RDP extension in Articles 81(2)(a) and 83 of the new Directive, this section turns to doctrinal evaluation. The central question is whether these Articles establish a sufficiently robust legal basis for the conditionality, both from the perspective of legislative precision and structural design. First, the principle of legal certainty is applied to examine whether medicine developers can reliably foresee at an early stage whether a product is likely to qualify for the RDP extension — a question made particularly acute by the Directive's explicit delegation of the definition's operationalisation to EMA scientific guidelines. Second, the evaluation steps back to examine the mechanism as a whole design choice: whether the use of an inherently normative and evolving concept as a binary eligibility trigger constitutes a sufficiently structured and transparent method for an innovation incentive intended to shape long-term R&D decisions.

a. Legal certainty of the UMN Extension

Stemming from the rule of law, one of the fundamental values of the EU enshrined in Article 2 TEU, the principle of legal certainty mandates that European rules are clear and precise, so as to ensure that situations and legal relationships governed by EU law remain foreseeable.¹⁰¹ The principle further requires that EU rules allow those concerned to know unequivocally what their rights and obligations are and take steps accordingly, as confirmed by consistent case law.¹⁰² Applied to the RDP framework of the EU Pharma Package, the benchmark of legal certainty translates into sufficiently precise conditions with a foreseeable outcome for medicine developers seeking to benefit from extended exclusivity. More specifically, tailored to the specific mechanism, the question of legal certainty asks whether the criteria included in Articles 81 and 83 of the new Directive are formulated with sufficient precision and foreseeability to serve as a reliable basis for R&D investment decisions.

The need for precision is underscored by the stakeholder debate that surrounded the 2023 Proposal. EFPIA expressed the industry's scepticism and dissatisfaction regarding the variability of RDP protection periods across product categories, arguing that a less predictable RDP system risks undermining innovation in Europe.¹⁰³ Specifically concerning the criteria for defining UMN in the 2023 proposal, EFPIA found some conditions clear and

¹⁰¹ Consolidated version of the Treaty on European Union OJ C326/13, art 2; Case C-63/93 *Duff and Others v Minister for Agriculture and Food* ECR I-569, para 20.

¹⁰² Case C-271/20 *Aurubis AG v Bundesrepublik Deutschland* EU:C:2021:959, para 69; Case C-39/20 *Staatssecretaris van Financiën v Jumbocarry Trading GmbH* EU:C:2021:435, para 48; Joined Cases C-798/18 and C-799/18 *Federazione nazionale delle imprese elettrotecniche ed elettroniche (Anie) and Others and Athesia Energy Srl and Others v Ministero dello Sviluppo Economico and Gestore dei servizi energetici (GSE) SpA* EU:C:2021:280, para 41.

¹⁰³ European Federation of Pharmaceutical Industries and Associations, *Attachment to EFPIA's Response to the European Commission's Open Public Consultation on the Revision of the General Pharmaceutical Legislation* (EFPIA 2021) 12.

comprehensible — such as the absence of authorised treatments, or the basic disease-severity filter — but criticised “*remaining high morbidity or mortality*”, “*meaningful reduction in morbidity or mortality*” and “*exceptional therapeutic advancement*”, as ambiguous and uncertainty-inducing for medicine developers.¹⁰⁴ On a functional level, this directly undermines the extension’s capacity to operate as an effective incentive: if developers cannot reliably foresee in advance whether their product will qualify for additional exclusivity, the extension will fail to direct R&D investment towards underserved disease areas.

To test the practical reach of the 2023 definition of UMN, EFPIA analysed 169 centrally authorised new active substances approved between 2019 and 2022, based on CHMP assessments extracted from European Public Assessment Reports (EPARs).¹⁰⁵ The results indicated that only 20% of the medicines would potentially meet the UMN criteria included in the 2023 Proposal, consistent with the Commission’s own Impact Assessment projections.¹⁰⁶ Of the 111 non-orphan substances tested, the majority (90) targeted diseases that could be considered as life-threatening or severely debilitating (cancer indications, autoimmune diseases and severe genetic disorders). Of those 90, only 10 addressed diseases for which no other authorised product existed, while 80 competed against other therapies. Out of those 80, only 49 targeted diseases that could be considered as carrying “*a remaining high morbidity or mortality*”, based on the disease description in the EPARs — and even that classification proved difficult, since CHMP

¹⁰⁴ EFPIA, *Report on UMN Criteria* (n 67) 6-10.

¹⁰⁵ EFPIA Report on UMN Criteria (n 67) 5. EPARs are scientific assessment reports published by the EMA for medicines authorised through the centralised procedure, setting out the scientific basis for the grant of an MA.

¹⁰⁶ Commission, 'Commission Staff Working Document – Impact Assessment Report Accompanying the Proposal for a Directive on the Union Code Relating to Medicinal Products for Human Use and the Proposal for a Regulation laying down Union Procedures for the Authorisation and Supervision of Medicinal Products for Human Use' SWD(2023) 192 final, 40–42.

decisions used qualifiers such as "substantial", "significant" and "clear" UMN without a formal legal standard ensuring consistency.

A further problem identified by EFPIA is that for certain indications — such as type 2 diabetes — the CHMP has explicitly stated that it does not consider a UMN to exist, which would effectively preclude products approved for those diseases from qualifying. The final criterion of “*meaningful reduction in disease morbidity or mortality*” was deemed the hardest to assess, largely due to its dependence on comparative clinical data — feasible for some conditions but highly challenging for others, such as cardiovascular diseases, where only 1 of 7 new centrally authorised active substances in the preceding four years had used an active comparator.

Another structural difficulty highlighted by EFPIA is the temporal uncertainty inherent in the UMN conditionality:¹⁰⁷ since UMN can evolve significantly over the decade-long development timeline of a medicine, a competitor product entering the market mid-development may eliminate the residual UMN and disqualify an otherwise innovative candidate, resulting on the R&D investment already undertaken.

Before evaluating individual aspects of the UMN mechanism against the benchmark of legal certainty, attention must be drawn to Article 83(3) of the compromise text read together with recital 50, both of which address the EMA’s scientific guidelines. Recital 50 expressly states that the establishment of a criteria-based definition of UMN "is required to incentivise the development of medicinal products in therapeutic areas that are currently underserved", and tasks the EMA with specifying, through scientific

¹⁰⁷ European Federation of Pharmaceutical Industries and Associations, *Assessment of Main Provisions and Key EFPIA Recommendations on the Revision of the Pharmaceutical Package* (EFPIA 2023).

guidelines, the conditions for *clinically relevant improvement in efficacy or safety*.¹⁰⁸ The guidelines are to cover clinical efficacy endpoints such as survival, symptoms and health-related quality of life, and clinical safety endpoints such as side effects, providing further technical detail regarding their assessment. On the one hand, this provides some operational substance to an otherwise sparsely drafted provision: the legislator has identified the specific endpoints and stakeholder inputs that will shape the assessment, in the Directive itself. On the other hand, the reference to future guidelines inevitably continues the open-ended character of the RDP in the legislation, since the threshold of “clinically relevant” improvement remains to be concretised.

The inclusion of patient-relevant endpoints — such as symptoms and health-related quality of life — in the guideline scope is particularly noteworthy. Although the multi-stakeholder perspective advocated by EFPIA and other industry bodies was not directly reflected in the text of Article 83 itself, explicit reference in Recital 50 to these endpoints, and to mandatory consultation of patient populations, can be read as a partial legislative response to industry and stakeholder calls for a more patient-centred definition of UMN. The requirement for guidelines developed with mandatory participation of several stakeholder groups therefore represents a commitment to inclusive interpretation and progressive crystallisation of how the extension will operate in practice, even if it stops short of resolving the definitional uncertainty at the legislative level.

With the above in mind, the UMN RDP extension can be evaluated against the legal certainty benchmark on the following criteria:

¹⁰⁸ Council, *Final Compromise Text for Directive 2026* (n 55) recital 50.

Regarding the disease severity condition — *life threatening or severely debilitating disease* — it can be argued with considerable certainty that it is sufficiently clear. This is supported by interpretive continuity: the same terminology has been consistently applied in the assessment of orphan medication applications, under both the current framework (Article 3 of Regulation No 141/2000) and the proposed replacement (Article 63 of the compromise text of the new Regulation).¹⁰⁹ In practice, the CHMP has consistently applied this criterion in the context of orphan and PRIME designation assessments, meaning that the expectations for its fulfilment are well established among medicine developers. This is further supported by the existence of Commission and EMA guidelines and supporting documents on orphan designation applications, which address the necessary criteria in detail.¹¹⁰

A similar conclusion can be reached regarding the first of the two alternative conditions — the complete absence of other authorised products for the disease in question. In a meaningful step towards a clearer legal mechanism, the 2026 compromise text removed the vague condition of “*remaining high morbidity or mortality*”, which was previously located in the same paragraph. For the medicine developer, this condition is now assessed simply through confirming the absence of other products targeting the same disease, which can be done through searching the EU-level Union Register of medicinal products and the relevant national product registers for the specific indication and active substance — a straightforward, factual inquiry based on publicly

¹⁰⁹ See Chapter 3.2. above.

¹¹⁰ Commission Notice, 'Guideline on the Format and Content of Applications for Designation as Orphan Medicinal Products and on the Transfer of Designations from One Sponsor to Another' [2022]OJ C440/2; Commission, 'Guideline on the Format and Content of Applications for Designation as Orphan Medicinal Products and on the Transfer of Designations from One Sponsor to Another' (Revision 5, July 2021).

available information. In this regard, Article 80(5a) of the compromise text further requires national competent authorities to publish on their websites lists of the medicinal products they have granted MA, specifying the applicable RDP prolongation under Article 81.¹¹¹ This detailed transparency obligation is likely to further enhance the predictability of this condition, by providing medicine developers with readily accessible information on competitor products and their protection status.

Regarding the second alternative criterion — *clinically relevant improvement in efficacy, or in safety with at least comparable efficacy, in comparison with existing medicinal products or other methods* — it is more difficult to argue in favour of legal certainty, though the picture is more nuanced than it may initially appear. A first positive note is that this formulation replaced "*meaningful reduction in disease morbidity or mortality for the relevant patient population*", which set no clear or measurable threshold for the medicine developer to meet. A second positive note is that Recital 50 of the Directive does not leave the criterion entirely undefined: it expressly directs the EMA, in developing its scientific guidelines, to cover clinical efficacy endpoints such as survival, symptoms and health-related quality of life, and clinical safety endpoints such as side effects. This provides at least a typology of the outcomes against which "clinically relevant improvement" is to be assessed.

What Recital 50 does not specify, however, is the magnitude of improvement required on any of those endpoints — that is, the size of the treatment benefit that crosses the threshold from merely measurable to "clinically relevant". That determination is left entirely to the EMA guidelines, meaning that the

¹¹¹ Council, *Final Compromise Text for Directive 2026* (n 55) art 80(5a).

legislative text itself fixes the type of endpoint but not the standard of proof, which remains the critical unknown for a developer making an early R&D investment decision. The standard is therefore still inherently relative and context-dependent, requiring a comparison with existing products and methods whose own clinical profile may vary considerably.

To summarise on the question of legal certainty, the compromise text satisfies the benchmark on two of its three substantive criteria: disease severity and the absence of alternative treatments are both formulated with sufficient clarity and supported by established interpretive practice. The third criterion — *clinically relevant improvement in efficacy or safety* — presents a more nuanced picture. Recital 50 makes a meaningful contribution by directing the EMA's scientific guidelines to cover specific endpoint types — survival, symptoms, health-related quality of life and side effects — thereby anchoring the assessment in a defined typology of outcomes. The ambition of this commitment is, however, somewhat tempered by the recital's use of "*should*" rather than "*will*" in describing the EMA's consultation obligations, which softens what could have been a firm procedural requirement. What the Directive does not fix, however, is the magnitude of improvement required on any of those endpoints, leaving the critical threshold of "clinical relevance" to be elaborated through EMA guidelines. The result is that the legislative text provides a structural framework but not a workable standard: the key incentive-relevant parameter — how much improvement is enough — remains subject to regulatory elaboration and, potentially, to significant discretion on the part of the assessing bodies. For a developer making an early R&D investment decision, this is precisely the point at which foreseeability matters most, and precisely the point at which the framework currently falls short.

b. Assessment of the UMN Mechanism as a Design Choice

In this final part of the evaluative analysis, the UMN conditionality is assessed as a whole design choice — specifically, the decision to tie a normative public health concept to the binary trigger of additional market exclusivity, and the question of whether the mechanism can function effectively as an *ex ante* incentive rather than an *ex post* reward.

The first question is whether it is coherent to use an inherently normative, evolving public health category — such as unmet medical need — as a yes/no condition for granting prolonged market exclusivity. UMN is a fluid concept, not a fixed state: it reflects judgments about which health needs are underserved, how serious a condition must be, and what standard of improvement is clinically relevant. Because these judgments evolve with scientific progress, societal preferences and health-system constraints, the boundaries of UMN are inherently shifting and not strictly measurable at a given time. This is reflected, indeed, in the legislator’s choice to entrust the EMA with developing scientific guidelines to support the application of the Article. The legislator could have chosen a different mechanism to reward investment in underserved areas; however, exclusivity is the crown jewel of incentives driving the decisions of medicine developers, and an additional year free from generic competition is a commercially significant advantage that justifies anchoring the extension to a demanding substantive threshold.¹¹² The difficulty is that the notion of UMN, as defined in the new Directive, does not itself provide a fully precise threshold, but defers to future EMA guidelines for its operationalisation. Accordingly, a medicine developer cannot be certain their product fulfils the criterion until the CHMP has ruled on it.

¹¹² PricewaterhouseCoopers (n 36).

From a normative perspective, the stakeholder debate surrounding the definition reflects precisely this tension between precision and inclusivity: EFPIA advocated for a “*patient-centred, more inclusive*” definition of UMN, arguing that confining the concept to morbidity and mortality metrics risks excluding patient-relevant outcomes such as quality of life, prevention and individual treatment burden.¹¹³ Similarly, in a stakeholder study conducted by Frontiers in Medicine, healthcare providers and researchers cautioned against a rigid, one-size-fits-all definition with pre-defined eligibility criteria, calling instead for a flexible, multi-stakeholder-endorsed approach capable of reflecting the complexity of healthcare realities. By contrast, public bodies and some industry associations stressed the need for clear, quantifiable criteria to guide innovation decisions reliably.¹¹⁴ These divergent positions illustrate that the design tension is not merely technical but deeply normative: the broader the definition, the more inclusive and patient-relevant the mechanism becomes, but the less predictable it is for developers; the narrower and more quantifiable, the more foreseeable but potentially less responsive to the full spectrum of unmet need.

The choice of such a broad normative criterion — which cannot be reliably verified prior to regulatory assessment, unlike the other RDP extensions which rest on more objective conditions, such as clinical trial conduct and filing timelines — as a binary trigger for prolonged exclusivity, has attracted, and will likely continue to attract, criticism on grounds of fairness and equal treatment. Two products with similar clinical profiles could fall on different sides of the UMN assessment if the normative judgment of “*unmet*” shifts over time or is applied inconsistently through therapeutic areas. Yet, the legal

¹¹³ European Federation of Pharmaceutical Industries and Associations, *Addressing Unmet Medical Need* (EFPIA 2023); European Federation of Pharmaceutical Industries and Associations, *Key Recommendations on the Revision* (n 107).

¹¹⁴ Wens et al. (n 66) 5.

consequence is binary: either the product enjoys the additional year of market exclusivity or it does not, with no gradation reflecting nuances in need or clinical benefit, while closely comparable products that narrowly fail to qualify receive no additional protection at all. The intensity of the reward is thus not calibrated to the degree of UMN addressed or the magnitude of clinical improvement, but determined entirely by crossing a contestable eligibility boundary.

The second design question is whether the UMN extension will function effectively as an *ex ante* incentive, steering R&D choices towards underserved disease areas at an early stage, or merely as an *ex post* reward for products that would have been developed regardless. The Recitals and Articles of the Pharma Package clearly frame the mechanism as a strategic instrument intended to redirect R&D decisions towards areas of unmet need, a factor to be incorporated into long-term project selection.¹¹⁵ Nonetheless, since the guideline-dependent UMN condition is assessed only at the point of MA application — the very end of a development timeline that typically spans a decade — it is questionable whether developers can meaningfully factor it into their early investment decision with sufficient confidence. This uncertainty carries a significant risk: rather than attracting new actors and new products into underserved areas, the extension may function primarily as an additional reward for products that would have been pursued in any event, leaving the underlying market failures in innovation largely unaddressed.

Viewed as a whole, the UMN-linked RDP extension appears as a powerful but blunt tool for innovation incentives: it re-orientes the RDP framework towards addressing unmet needs and signals a policy commitment to drawing more companies and products into this effort, but does so through a binary

¹¹⁵ Council, *Final Compromise Text for Directive 2026* (n 55) recital 8, 11, 44, 45.

mechanism whose substantive thresholds are left to be determined through soft law. This dilutes the foreseeability that the mechanism requires to function as a genuine *ex ante* incentive. At the time of writing, with the final compromise texts yet to be adopted and implemented in practice, the UMN exclusivity risks functioning more as a symbolic recalibration of the incentive architecture than as a reliably predictable lever for redirecting the long-term R&D choices of firms towards underserved disease areas.

4. RDP Extension: Transferable Data

Exclusivity Vouchers for Antimicrobials

Chapter 2 identified antimicrobial resistance (AMR) as a paradigmatic area of unmet medical need and innovation-related challenge. The market failures in the field, which are largely attributable to the short course and prudent use policies of antimicrobials, have yet to be mitigated with the incentives currently in place. The result of the low commercial value of the antimicrobial medicinal product market is the hindering of antimicrobial R&D.¹¹⁶ The EU legislator has therefore recognised the need to both maintain the efficacy of existing antimicrobials for as long as possible, and to implement mechanisms to promote the development of novel, priority antimicrobials.¹¹⁷

In this vein, the 2023 Pharma Package proposal introduced Transferable Data Exclusivity Vouchers (TEVs) as a targeted pull incentive for the development of “*priority antimicrobials*”, a mechanism which has largely been retained in the 2026 compromise text. Having examined the UMN-linked RDP extension, the thesis now turns to TEVs as part of the renewed RDP framework. This Chapter opens by situating the TEV within the RDP framework as a distinct extension mechanism, before proceeding to a detailed analysis of its legal design and operation under Articles 40–43 of the new Regulation. The Chapter then takes a systematic view, examining the TEV's relationship to the other RDP extension mechanisms and to the Voluntary Subscription Model. It concludes with an evaluation of the TEV extension, assessing first whether the mechanism satisfies the principle of legal

¹¹⁶ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 77.

¹¹⁷ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 77.

certainty, and second whether it constitutes a well-designed innovation incentive capable of durably redirecting R&D decisions towards the development of new antimicrobials.

4.1. Transferable Exclusivity Vouchers as a RDP Extension

While setting out the baseline data exclusivity period of eight years, Article 80 of the new pharmaceutical Directive also stipulates that it can be extended by one additional year through the use of a transferable exclusivity voucher (TEV) for a “*priority antimicrobial*”, in accordance with Article 41(1) of the new pharmaceutical Regulation.¹¹⁸ According to the latter, such voucher may be used to extend the data protection of the priority antimicrobial it was granted for, or of another medicinal product authorised in accordance with the Regulation, of the same or different MA holder.¹¹⁹ The reward of an additional year of data exclusivity has the capacity to incentivize antimicrobial R&D, by allowing the developer of the antimicrobial to either extend the product’s exclusivity — or of another product of theirs — or to sell the voucher to another MA holder.¹²⁰ This last element of transferability of the voucher across products and medicine developers is the most analytically distinctive feature among the strict conditions for the operation of the voucher system, which, in turn, have sparked debate amongst stakeholders and commentators. By allowing a developer of a commercially unattractive antimicrobial to profit from the sale of the voucher to a larger company seeking to extend protection on an unrelated, high-revenue product, the mechanism attempts to redirect R&D investment towards priority

¹¹⁸ Council, *Final Compromise Text for Directive 2026* (n 55) art. 80(1).

¹¹⁹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41.

¹²⁰ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 77.

antimicrobial without relying on the antimicrobial’s own sales to generate a sufficient return on investment.

The use of the TEV for extending RDP is provided in a set of provisions separate from Article 81 of the new Directive, which contains “Additional regulatory market protection periods”. This extension of *data* exclusivity is mapped out in Articles 40-43 of the new Regulation, and that choice can be justified by the *sui generis* character of the mechanism, which aims to respond to a specific, identified market failure: the disconnect between the societal value and commercial returns for antimicrobials.

4.2. Legal design and operation of the TEV mechanism

a. Grant of the TEV for priority antimicrobials

The TEV mechanism is laid out in Chapter III (Incentives for the development of antimicrobials), Section 1 (“*Transferable exclusivity vouchers for priority antimicrobials*”), Articles 40-43 of the new pharmaceutical Regulation. The provisions pertain to the granting of the right to a TEV, its transfer, use and validity, as well as the duration of the application of the TEV mechanism.

Central to the functioning of the TEV mechanism is the definition of “*priority antimicrobial*” in Article 40(3) of the Regulation. Antimicrobials — including antibiotics, antivirals, antifungals and antiparasitics — are medicines used to prevent and treat infectious diseases in humans, animals

and plants.¹²¹ For an antimicrobial to fall within the definition of *priority antimicrobials*, the following criteria must apply. First, the antimicrobial must address a “*multi-drug resistant organism*”. Although there is no definition for this term in the legal context, the European Centre for Disease Control expert proposal by Magiorakos and others (2012), which is considered as the globally standard reference, starts with the literal, strict, definition of a multi-drug resistant organism as an organism with *in vitro* resistance to more than one antimicrobial agent.¹²² However, the proposal argues that the standard threshold should be resistance to at least one agent in three or more antimicrobial categories.¹²³ Second, the preclinical and clinical data on the antimicrobial must demonstrate a *significant clinical benefit* with respect to antimicrobial resistance.¹²⁴ Finally, the definition of *priority antimicrobial* also requires at least one of two conditions: either the product’s mechanism of action to be distinctly different from that of any authorised antimicrobial in the Union, or to contain a new active substance that, when used alone or in combination with other active substances, addresses a serious or life threatening infection.

A notable difference between the 2023 proposal and the 2026 compromise text concerns the eligibility criteria for “*priority*” status. The original proposal included a third alternative condition — that the medicinal product represent a new class of antimicrobials — which was removed from the 2026 compromise text.¹²⁵

¹²¹ World Health Organization, 'Antimicrobial Resistance' (WHO Fact Sheet, 21 November 2023) <<https://www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance>> accessed 20 May 2026.

¹²² *In vitro*: a process performed in a controlled environment, e.g. a laboratory. See A-P Magiorakos and others, ‘Multidrug-resistant, extensively drug-resistant and pandrug-resistant bacteria: an international expert proposal for interim standard definitions for acquired resistance’ (2012) 18(3) *Clinical Microbiology and Infection* 268.

¹²³ Magiorakos and others (n 122).

¹²⁴ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 80.

¹²⁵ Commission, *Proposal for Regulation 2023* (n 54) art 40.

Article 40 the new Regulation explicitly mentions that the scientific assessment of the criteria for “*priority antimicrobials*” by the EMA shall take into account the “*WHO priority pathogens list for R&D of new antibiotics*”, or an equivalent list established at Union level. The WHO list was published in 2017 and identifies 12 families of bacteria that pose the greatest threat due to their resistance to multiple antibiotics.¹²⁶ The bacteria are ranked as “*critical*”, (multi-drug resistant bacteria that pose a particular threat in hospitals and have a high mortality rate), “*high*” (responsible for infections such as salmonella and gonorrhoea) or “*medium*” (can still be treated successfully with existing antibiotics), according to the urgency of the need for new antibiotics to target them.¹²⁷ Recital 78 of the new Regulation specifically calls for focus on the “*critical*” and “*high*” bacteria.¹²⁸

A TEV is granted only upon the express request of the applicant, submitted at the time of the MA application for the antimicrobial product in question. The EMA conducts the appropriate scientific assessment of the application, based on which the Commission may finally grant the TEV to the applicant, through an implementing act.¹²⁹ The application must demonstrate that the product constitutes a *priority antimicrobial*, and that the following conditions of Article 40(4) are met.¹³⁰ First, the applicant must demonstrate “capacity to supply the priority antimicrobial in sufficient quantities for the expected needs of the Union market”. Additionally, the applicant must provide information on all direct financial support received for research related to the

¹²⁶ World Health Organization, 'WHO Publishes List of Bacteria for Which New Antibiotics Are Urgently Needed' (News Release, 27 February 2017) <<https://www.who.int/news/item/27-02-2017-who-publishes-list-of-bacteria-for-which-new-antibiotics-are-urgently-needed>> accessed 24 May 2026.

¹²⁷ WHO, *List of Bacteria* (n 126).

¹²⁸ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 78.

¹²⁹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(1).

¹³⁰ Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(4).

development of the antimicrobial. Finally, the applicant must also demonstrate that the MA application for the antimicrobial was first submitted at EU level — i.e. to the EMA — or at least that the EU filing was done within 180 days after filing outside the EU.

Specifically regarding the condition of information on direct financial support, the Regulation establishes an obligation of public disclosure. Within 30 days after the grant of MA, the MA holder shall make the information on direct financial support that was included in the MA application accessible to the public via a dedicated webpage, and shall promptly share the link with the EMA.¹³¹ In this vein, Recital 81 of the Regulation calls for transparency and complete information by the antimicrobial developer on direct financial support received from any source worldwide, so as to avoid the risk of overcompensation of investment.¹³²

In light of the effort to maintain the efficacy of the priority antimicrobials, Article 40 of the Regulation also reserves their use exclusively for the treatment of humans for ten years.¹³³ The EMA may choose to prolong this period based on an evaluation of the criteria set in the Commission Delegated Regulation (EU) 2021/1760. This Regulation sets out the criteria for designating antimicrobials as reserved for human use, and in the present case, for prolonging that reservation. This will be assessed based on the following: high importance to human health (sole, last-resort or essential treatment option for serious, life-threatening infections), use in animals presenting risk of transmission of AMR to humans (whether through resistant microorganisms or resistance genes) and essential need for animal health

¹³¹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(4), recital 80.

¹³² Council, *Final Compromise Text for Regulation 2026* (n 68) recital 81.

¹³³ Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(6).

(absence of robust evidence or availability of adequate veterinary alternatives).¹³⁴

b. Transfer, use and time limits of TEVs

As already analysed, the introduction of the TEV mechanism by the EU legislator envisages the capacity to incentivise and finance the development of priority antimicrobials. However, the benefit of additional exclusivity through the use of the TEV is ultimately borne by health systems, since generics and biosimilars are delayed, resulting in no competition for the originator, who is therefore free to maintain higher prices. It is thus important, and explicitly recognised in Recital 79, that this financial reward is primarily captured by the developer of the antimicrobial and not the buyer of the voucher.¹³⁵ In this vein, the conditions for covering the grant, use, and transfer of the voucher, as well as the cap on the total number of vouchers, must be strict.¹³⁶

As mentioned above and according to Article 41 of the new Regulation, the TEV can be used to extend the data protection of a product by twelve months.¹³⁷ The product benefiting from the additional exclusivity can either be the priority antimicrobial for which the voucher was granted, or another medicinal product authorised in accordance with the new Regulation.¹³⁸ The MA holder benefiting from can again be the MA holder for the priority

¹³⁴ Commission Delegated Regulation (EU) 2021/1760 of 26 May 2021 supplementing Regulation (EU) 2019/6 by establishing the criteria for the designation of antimicrobials to be reserved for the treatment of certain infections in humans [2021] OJ L353/1, Annex, Parts A–C.

¹³⁵ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 79.

¹³⁶ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 79.

¹³⁷ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1).

¹³⁸ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1).

antimicrobial, or a different MA holder.¹³⁹ A TEV can only be transferred once, and the transfer can be conducted via sale.¹⁴⁰ In the same spirit of transparency that underpins the granting of the voucher, the Regulation requires the MA holder that received the MA through transfer to notify the transfer to the EMA within 30 days, stating the value of the transaction that took place.¹⁴¹ This information shall be made publicly available on the EMA's website. It is important that the identity of the holder of a voucher that has not been used is publicly known at all times, to ensure transparency and trust.¹⁴²

Apart from being single-transfer, the TEV is also single-use: it can only be used once, and in relation to a single centrally authorised medicinal product.¹⁴³ The 2023 version of the Article also required it to be used within the first four years of RDP of a medicinal product, but this limitation was removed in the 2026 compromise text.¹⁴⁴

Using a TEV extends the data exclusivity period of the product to which it is applied, and the corresponding MA must therefore be updated to reflect this change. This is done through an application for a variation of the MA under Article 47 of the Regulation, which governs post-authorisation changes by classifying them according to risk and applying procedures proportionate to their impact on quality, safety and efficacy.¹⁴⁵ The specific categorisation and procedural requirements for TEV-driven variations to the MA will be further determined by delegated acts of the Commission under Article 47.

¹³⁹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1).

¹⁴⁰ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(3), recital 82.

¹⁴¹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(4).

¹⁴² Council, *Final Compromise Text for Regulation 2026* (n 68) recital 82.

¹⁴³ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1).

¹⁴⁴ Commission, *Proposal for Regulation 2023* (n 54) art 41.

¹⁴⁵ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(2).

The Regulation provides stricter conditions for the use of the TEV on a product other than the priority antimicrobial for which it was granted. In that case, the TEV may only be used in the fifth or sixth year of the RDP period, and only if the MA holder demonstrates that the annual gross sales of the medicinal product in the Union during any of the first four years after the MA grant have not exceeded €490 million.¹⁴⁶ The MA holder must demonstrate that this information is accurate, complete and audited by an independent external auditor.¹⁴⁷ An additional condition is that the TEV can only be used if the MA for the antimicrobial for which it was granted has not been withdrawn.¹⁴⁸ Regarding the validity of the TEV, that shall cease either when the Commission adopts a decision granting additional RDP according to Article 47, or where the voucher is not used within five years from the date it was granted.¹⁴⁹

An important safeguard is set in place in Article 42(2) of the Regulation. The provision empowers the Commission to revoke the voucher prior to its transfer, if a request by any Member State or the Commission for supply, procurement or purchase of the priority antimicrobial is not fulfilled. Another point related to the validity of the voucher concerns the withdrawal of the antimicrobial from the market prior to expiry of RDP. In those cases, Article 42(3) expressly provides that the remaining RDP shall not prevent the validation, authorisation and placing on the market of a generic or biosimilar referencing it — though patent rights and supplementary protection certificates remain unaffected.¹⁵⁰

¹⁴⁶ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1).

¹⁴⁷ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1).

¹⁴⁸ Council, *Final Compromise Text for Regulation 2026* (n 68) art 41(1a).

¹⁴⁹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 42(1).

¹⁵⁰ Council, *Final Compromise Text for Regulation 2026* (n 68) art 42(3).

The novel TEV mechanism shall be assessed and evaluated by the Commission, either after the use of the first two vouchers, or five years after the date of application of the new Regulation, whichever is the earliest.¹⁵¹ The evaluation every five years will continue, and the Commission shall assess the effectiveness of the voucher in addressing AMR and the antimicrobial market failures. Accordingly, the Commission may adjust the annual gross sales cap in Article 41(1) if necessary due to inflation, as well as increase the number cap on the number of TEVs in Article 43.¹⁵²

Under Article 43, Section I of Chapter III — the entirety of the TEV mechanism — shall apply for fifteen years after the date of entry into force of the new Regulation, or until the Commission has granted a total of 5 vouchers, whichever is earliest.¹⁵³ The Commission's evaluations will therefore play a central role in determining whether the mechanism will continue to apply for the full fifteen years or be discontinued once the maximum number of TEVs is reached.¹⁵⁴ It is worth noting that the 2023 Regulation proposed a cap of ten, not five vouchers.¹⁵⁵

¹⁵¹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 170(5a).

¹⁵² Council, *Final Compromise Text for Regulation 2026* (n 68) recital 84.

¹⁵³ Council, *Final Compromise Text for Regulation 2026* (n 68) art 43.

¹⁵⁴ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 83.

¹⁵⁵ Commission, *Proposal for Regulation 2023* (n 54) art 43.

4.3. Systematic view: The TEV within the broader revised framework

After laying out the rules of the TEV and before addressing the question of the RDP extension's certainty and structure, it is useful to examine the mechanism systematically. This entails situating it within the updated pharmaceutical framework, with a focus primarily on the other RDP extension mechanisms and the voluntary subscription model.

In the greater picture, the TEV mechanism is part of the Union's effort and policy to respond to AMR, one of the key goals of the reform of the pharmaceutical legislation.¹⁵⁶ To this end, the Union has deployed a range of push instruments to fund antimicrobial R&D, such as the Horizon Europe-funded One Health Antimicrobial Resistance Partnership, a ten-year €253 million initiative for translational AMR research across human, animal and environmental health.¹⁵⁷ Another example includes HERA Invest, a €100 million financing mechanism supporting SMEs developing medical countermeasures against cross-border health threats such as AMR.¹⁵⁸ However, the Commission's One Health Action Plan against Antimicrobial Resistance specifically calls for new economic models for incentivising antimicrobial discovery and development while reconciling the incentives

¹⁵⁶ See Chapter 2.2. above.

¹⁵⁷ European Commission Directorate-General for Research and Innovation, 'New European Partnership on One Health AMR: €253 Million for Research and Innovation against Antimicrobial Resistance' (*European Commission*, 23 September 2025) <https://research-and-innovation.ec.europa.eu/news/all-research-and-innovation-news/new-european-partnership-one-health-amr-eu253-million-research-and-innovation-against-antimicrobial-2025-09-23_en> accessed 10 May 2026.

¹⁵⁸ Health Emergency Preparedness and Response Authority, 'Second HERA Invest Agreement Signed to Advance Therapies against Antimicrobial Resistance' (*European Commission*, 9 December 2024) <https://health.ec.europa.eu/latest-updates/second-hera-invest-agreement-signed-advance-therapies-against-antimicrobial-resistance-2024-12-09_en> accessed 20 May 2026.

with responsible use.¹⁵⁹ The TEV mechanism is a response to this need, as a pull incentive for innovation, that rewards successful development of priority antimicrobials only upon grant of the MA. To understand the concept of the mechanism, it is useful to frame it next to its most closely related instruments, namely the other RDP extensions of Article 81 of the new Directive and the voluntary subscription model of Article 43(a) of the new Regulation.

a. TEV and other RDP extension mechanisms

The extension of RDP through a TEV sits together with the other conditionalities of the new pharmaceutical legislation that build upon the eight-year baseline data protection of Article 80 of the Directive.¹⁶⁰ As pointed out in Chapter 3.3. above, all extension mechanisms offer the same duration of protection, twelve months, and TEV is not an exception.¹⁶¹ Another feature of the TEV mechanism that is shared by the other extensions is that of prioritisation of the EU as the forum for MA application.¹⁶² The prioritisation of marketing the product in the EU or at least timely filing at EU level upon filing outside the Union, is a common prerequisite for extending RDP that runs throughout the revised framework.

The differences, however, are at least as significant as the commonalities. Most notably, the TEV is the only mechanism to extend data protection, whereas all other extensions in Articles 80 and 81 of the new Directive extend

¹⁵⁹ Commission, 'A European One Health Action Plan against Antimicrobial Resistance (AMR)' (Communication) COM(2017) 339 final, 16–17 (sec 3.5.); Commission, *Proposal for Directive 2023* (n 5) 4.

¹⁶⁰ Council, *Final Compromise Text for Directive 2026* (n 55) art 80.

¹⁶¹ Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(1); Council, *Final Compromise Text for Directive 2026* (n 55) arts 80(1), 81.

¹⁶² Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(4)(d); Council, *Final Compromise Text for Directive 2026* (n 55) arts 81(2)(b), 81(2)(d).

market protection. This distinction is legally and commercially material: market exclusivity permits competitors to apply for and obtain an MA through the abridged procedure, but bars them from placing their products on the market;¹⁶³ data protection, by contrast, prevents generic competitors from even filing an application relying on the clinical data of the reference product. The TEV therefore blocks generic competition at an earlier and more fundamental stage and was plainly designed to carry a stronger protective effect than the other mechanisms.

The difference between the TEV and the other RDP extension mechanisms is not merely one of protection type — it is, more fundamentally, a difference in incentive structure. As noted in Chapter 3.3, both the TEV and the UMN extension stand apart from the remaining mechanisms by conditioning additional exclusivity on criteria rooted in public health norms and internationally recognised areas of therapeutic need. In this respect, the two mechanisms are not unrelated: the Pharmaceutical Strategy for Europe explicitly identifies AMR as a prime example of unmet medical need, placing the TEV and UMN extension within a shared normative rationale.¹⁶⁴ Interestingly, because the two mechanisms extend different types of exclusivity, they are capable of being combined, a possibility that will be assessed in Chapter 5 below. What distinguishes the TEV further, however — including from the UMN extension — is its transferability. All other extensions attach the additional exclusivity directly to the product that earned it; the TEV, by contrast, may be applied to an entirely different product from the priority antimicrobial for which it was granted. Rather than offering a fixed, product-specific reward, the TEV therefore operates as a flexible, detachable asset: one that a developer may choose to monetise by selling on

¹⁶³ Council, *Final Compromise Text for Regulation 2026* (n 68) art 40(1); Council, *Final Compromise Text for Directive 2026* (n 55) arts. 80(1), 81.

¹⁶⁴ Commission, *Pharmaceutical Strategy for Europe* (n 4) 4.

the open market, or to deploy strategically against another product in its own portfolio.

A final structural difference concerns conditionality design and temporal scope. While the conditions for UMN, timely EU filing and clinical trial conduct are all demonstrated and assessed at the point of MA application, the TEV follows a two-stage conditionality structure: the conditions for grant and those for use and transfer are distinct, and both must be satisfied for data exclusivity to be effectively extended. As to temporal scope, the TEV is the only RDP extension to feature a sunset clause — its legal basis will expire once the cap on the total number of vouchers is reached or the prescribed time frame lapses, making it a structurally time-limited instrument within an otherwise permanent framework.

b. TEV and the Voluntary Subscription Model

Apart from its place amongst the other exclusivity extensions, the TEV mechanism also sits next to another incentive mechanism of the new Regulation, that being the voluntary subscription model for antimicrobials of Article 43(a) of the new Regulation.¹⁶⁵ This mechanism allows contracting authorities from different Member States to act jointly in awarding multi-year public contracts for the purchase of antimicrobials. The subscription contracts must include, as a mandatory condition, full or partial delinkage of funding from the volume of sales, thereby severing the link between a developer's revenue and the quantity of antimicrobial actually dispensed.¹⁶⁶ Participation is voluntary for Member States, and the Commission will develop guidelines

¹⁶⁵ Council, *Final Compromise Text for Regulation 2026* (n 68) Chapter III Incentives for the Development of Antimicrobials.

¹⁶⁶ Council, *Final Compromise Text for Regulation 2026* (n 68) art 43a(3).

for valuing methodology and remuneration of products, as well as more incentives for investment in the development of priority antimicrobials.¹⁶⁷

The TEV mechanism and the subscription model are linked explicitly through Article 40(7) of the Regulation. This provision requires the Commission to inform Member States once a priority antimicrobial receives its MA and include a recommendation to consider voluntary subscription. Both mechanisms are delinked from sales volumes and operate as pull mechanisms, meaning that they reward successful products with market entry.¹⁶⁸ This is opposed to push mechanisms, which typically fund early-stage R&D to lower development costs and risks.¹⁶⁹

Nonetheless, the two mechanisms have different funding methods. The TEV is funded by the opportunity cost of delayed generic entry in the protected product's therapeutic area, which is spread across healthcare systems, payers and patients who must wait longer for affordable medicines.¹⁷⁰ The subscription model, on the other hand, is funded directly from Member State health budgets, potentially under the Directive 2014/24/EU procurement rules, explicitly mentioned in Article 43a of the new Regulation. Despite having different funding solutions, the two mechanisms are complementary and can operate in a sequence — the TEV rewards the development of the priority antimicrobial and the subscription model structures access and supply post-authorisation.

¹⁶⁷ Council, *Final Compromise Text for Regulation 2026* (n 68) art 43a(4).

¹⁶⁸ Laura Valtere, 'Critical Analysis of the EU's Legislative Proposal to Incentivize Investment in Antimicrobial R&D and Access' (2026) 34 *Medical Law Review* fwag010, 6; Pedro Henrique D Batista, Dennis Byrski, Matthias Lamping and Roberto Romandini, 'IP-Based Incentives against Antimicrobial Crisis: A European Perspective' (2019) 50 *IIC – International Review of Intellectual Property and Competition Law* 30, 38.

¹⁶⁹ Commission, *Communication on Pharmaceutical Reform and AMR* (n 40) 15.

¹⁷⁰ Commission, *Communication on Pharmaceutical Reform and AMR* (n 40) 15.

4.4. Evaluating the TEV Extension: Certainty and Design

Upon analysing the functioning of the TEV RDP extension as set out in Articles 40 - 43 of the new Regulation, this section will proceed with its doctrinal evaluation. Following the same logic as Chapter 3.4 above, the TEV mechanism for extending RDP will be examined both from the perspective of legislative drafting and as a matter of systemic design. To this end, the mechanism will be assessed against the benchmark of legal certainty as a general principle of EU law, to answer whether medicine developers can rely on the formulation of the mechanism to foresee whether they can meet its conditions. Second, the assessment moves on to a broader evaluation of the TEV RDP extension regarding structure and choice of design.

a. Legal certainty of the TEV Extension

As mentioned in Chapter 3.4 above, the principle of legal certainty requires that EU law provisions are clear and certain regarding the rights and obligations they contain.¹⁷¹ The principle serves to ensure that the legal relationships governed by EU law remain foreseeable and that those subject to them can plan their conduct according to their rights and obligations. With regard to the TEV mechanism, the principle of legal certainty acts as a benchmark by asking whether the conditions and definitions set out in the relevant Articles of the Regulation are formulated with sufficient precision and foreseeability to serve as a reliable basis for the R&D investment decision of developers pursuing priority antimicrobial designation — whether with a

¹⁷¹ See Chapter 3.4.

view to applying the exclusivity extension to the antimicrobial itself, to another product in their pipeline, or to selling it to another MA holder.

With regard to the criteria for priority designation of an antimicrobial, it can be argued that the formulation of Article 40(3) provides, for the most part, a sufficient level of clarity and foreseeability. The criterion of addressing a multi-drug resistant organism is straightforward, and the assessment in accordance with the categorised and specified WHO priority pathogens list in the case of antibiotics only enhances the clarity.¹⁷² While the reference to "other equivalent lists at Union level" as a basis for the priority assessment introduces an element of flexibility that may appear to dilute legal certainty, it can equally be read as a safeguard against rigidity — broadening the evidential basis for the assessment and reducing over-reliance on any single classification framework. Additionally, the criterion of a new active substance addressing a *serious or life threatening infection* uses terminology that is closely aligned with other formulas in EU pharmaceutical law, for example the *life threatening or severely debilitating disease* criterion in UMN and the orphan medicine legislation.¹⁷³ This continuity of language points towards sufficient certainty. Lastly, the criterion of the product representing a new class of antimicrobials was removed from the final compromise text of the Regulation, and this is a welcome step in practicality and foreseeability. The remaining alternative conditions — a distinctly different mechanism of action or a new active substance — already capture the essential attributes of novelty, and the removal of the "new class" criterion is of limited practical consequence given how rarely such genuinely novel antimicrobials reach the market.¹⁷⁴

¹⁷² WHO, *List of Bacteria* (n 126).

¹⁷³ See Chapter 3.2.

¹⁷⁴ See Chapter 2.2.

There is another aspect worth pointing out regarding continuity of language. The priority designation of an antimicrobial also requires a *significant clinical benefit*, which mirrors Article 81(2a) of the new Directive — the extension of market protection for new therapeutic indication. This evidences a common way of assessment, and the years of practice with this standard could provide familiarity to developers to this end.¹⁷⁵ Nonetheless, with one important difference. The benchmark in this condition requires the benefit to be assessed “with respect to antimicrobial resistance”. This raises questions on whether the existing guidance tools are fully adapted to this end, given that most new antibiotics in the past decade have been approved on the basis of non-inferiority to existing products, without demonstrating additional clinical benefit for patients with resistant infections.¹⁷⁶

Regarding the conditions for the grant of the voucher, Article 40(4) of the Regulation employs both precisely drafted and more open-ended criteria. The requirement that the applicant demonstrate prioritisation of the EU as a filing forum is formulated in unambiguous terms, tracking the same language used for the RDP extensions in Article 81 of the new Directive.¹⁷⁷

The same cannot be said for the more demanding requirements of demonstrating supply capacity and disclosing all direct financial support. As to the former, a legal certainty gap arises from the absence of any standard for determining what constitutes “*sufficient quantities for the expected needs of the Union market*” — leaving applicants without a reliable benchmark against which to assess compliance. A case could be made that the Commission's delegated acts under Article 47 of the Regulation will fill this

¹⁷⁵ See Chapter 3.4.

¹⁷⁶ Victor L Van de Wiele, Adam Raymakers, Aaron S Kesselheim and Benjamin N Rome, 'Transferable Exclusivity Vouchers and Incentives for Antimicrobial Development in the European Union' (2023) 51 *Journal of Law, Medicine & Ethics* 213, 214.

¹⁷⁷ See Chapter 4.3.

gap; however, Article 47 governs only the procedural aspects of applying for a variation of the MA and does not extend to the substantive conditions that must be met. As to the financial disclosure requirement, the procedural mechanics are sufficiently defined — including the obligation to communicate a dedicated webpage to the Agency within 30 days of MA grant. Yet the provision offers no definition of what qualifies as "*direct*" financial support, leaving the concept broad enough to generate genuine uncertainty as to its scope in practice.

As far as the use, transfer and validity of the TEV are concerned, Regulation Articles 41- 43 provide more legally certain provisions than the conditions for the granting of the vouchers. This can be ascertained from a few standout points.

It is clear that the procedure for use of the voucher will follow the requirements of Article 47 of the Regulation on variations of marketing authorisations. Furthermore, the same applies for the single-use of the voucher on a centrally authorised medicinal product. It should be noted, though, that the removal of the restriction on using the TEV within the first four years of RDP risks undermining legal clarity and foreseeability.¹⁷⁸ Its original inclusion followed closely the objective of setting strict conditions for the TEV mechanism, as highlighted by the Regulation's recitals.¹⁷⁹ On the other hand, the removal of the restriction opens up the door to strategic behavior for medicine developers: a smaller company might hold on to the voucher to receive the highest bid possible, whereas a larger company might hold on while waiting for a commercial drug to complete testing.¹⁸⁰ However,

¹⁷⁸ Valtere (n 168) 6; Batista and others (n 168) 12.

¹⁷⁹ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 79.

¹⁸⁰ Mario García-Díaz, Jorge Mestre-Ferrándiz and Jaime Espín, 'Transferable Exclusivity Extension Vouchers for Antimicrobials: Incentive Design, Implementation Challenges, and Policy Trade-Offs' (2026) 10 *PharmacoEconomics – Open* 393.

it is also possible that a company would rather make returns as soon as possible than in the future, therefore it would be unlikely that it would hold the voucher for an extended period of time.¹⁸¹

The condition that a TEV can only be used if the MA for the priority antimicrobial has not been withdrawn is a clear, necessary limitation. This can be considered the backbone of the mechanism, functioning as the primary safeguard against opportunistic behaviour. Developers of antimicrobials are expressly prohibited from obtaining the TEV, abandoning the antimicrobial and then monetising the TEV on a product with high sales.

The stricter conditions for the use of a voucher that has been transferred to another MA holder also provide a satisfactory level of certainty. The restriction of the use of the TEV only during the fifth or sixth year of the product's RDP, as well as the exclusion of "blockbuster" products from the scope of use, are favorable to this end. Especially given the published lists of medicines granted extended RDP per Article 80(5a) of the new Directive, medicinal developers will have the ability to anticipate when TEVs will be used by their competitors.¹⁸² The foreseeability of the whole TEV system is also enhanced by the cap on fifteen years or grant of five vouchers after the entry into force of the Regulation. Nevertheless, developers must also account for the risk that the cap will be exhausted before their product qualifies for the enviable extension of exclusivity.

Overall, the foregoing analysis shows that the TEV mechanism combines relatively certain eligibility and use criteria, with a few instances of residual uncertainty. The priority antimicrobial designation criteria and several

¹⁸¹ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

¹⁸² See Chapter 3.4.

operational conditions — such as the “blockbuster” clause and the numerical cap on TEVs — are framed in sufficiently precise, objective terms to guide the strategic planning of medicine developers. By contrast, key elements such as the evidentiary standard for capacity to supply and the obligation to disclose funding remain only broadly sketched and will depend heavily on subsequent practice and guidance. Against this backdrop, the TEV mechanism as formulated in Articles 40-43 of the Regulation nonetheless provides a sufficient degree of predictability for developers and therefore enjoys support from pharmaceutical companies.¹⁸³ Experts in the field have heralded the voucher mechanism as a “*pragmatic and superior alternative to the status quo*”, arguing that although more efficient policy alternatives may exist in theory, these are unlikely to be implemented in practice in the near future.¹⁸⁴

b. Assessment of the TEV Mechanism as a Design Choice

Having assessed the TEV mechanism against the principle of legal certainty and foreseeability, the evaluation now turns to the broader question of whether the EU legislator's choice to link the development of priority antimicrobials with additional regulatory data exclusivity constitutes sound incentive design. The analysis proceeds in three steps: it first examines the economic rationale underpinning the TEV and its partial delinkage structure; it then scrutinises the targeting of the mechanism and the obligation to publicly disclose funding sources; and it concludes by considering the implications for access and cost to Member States.

¹⁸³ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

¹⁸⁴ García-Díaz, Mestre-Ferrándiz and Espín (n 180); Adrian Towse, Mikel Berdud, Grace Hampson and Lotte Steuten, 'Breaking the European Deadlock: Part 2 – Transferable Exclusivity Vouchers – Effective Pull Incentive or a Policy Distraction?' (*OHE Insight*, 4 January 2024) <<https://www.ohe.org/insights/breaking-the-european-deadlock-part-2/>> accessed 10 May 2026.

The economic rationale behind the TEV mechanism is rooted in the economics of antimicrobial R&D and the limits of traditional exclusivity mechanisms. Incentives for the development of innovative medicines are linked to profitability, which is in turn linked to sales volume and price.¹⁸⁵ To this end, traditional exclusivity rights — patents, SPCs and RDP — provide their holders with the market power to maximize their profit without competition. With antimicrobials, however, the situation is different. The social benefit in this case lies in the prudent use of antimicrobials, in order to maintain their effectiveness and stall the effects of AMR. This inherently challenges the traditional exclusivity-based incentive frameworks, and the dynamic underscores a profound economic tension between the sales-driven return on investment that incentivizes antimicrobial developers and the imperative to preserve antimicrobial efficacy through constrained usage.¹⁸⁶ Thus, traditional exclusivity rights do not suffice as incentives for antimicrobials, as the expected profit, even with exclusivity, might not provide an effective return on investment.¹⁸⁷

In response to these shortcomings, the Commission proposed the TEV as a novel, dual-function, incentive tool with the potential to overcome the weaknesses of traditional exclusivity mechanisms with regard to antimicrobials.¹⁸⁸ The use of the TEV provides the commercially significant regulatory exclusivity, but advances the logic one step further by including the possibility of applying the extension to another product or selling it to another company.¹⁸⁹ This way, the legislator embeds a delinkage model to the

¹⁸⁵ Valtere (n 168) 6.

¹⁸⁶ John H Rex and Kevin Outterson, 'Antibiotic Reimbursement in a Model Delinked from Sales: A Benchmark-Based Worldwide Approach' (2016) 16 *Lancet Infectious Diseases* 500, 500.

¹⁸⁷ Valtere (n 168) 6; Batista and others (n 168) 30–31.

¹⁸⁸ Valtere (n 168) 5.

¹⁸⁹ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

TEV mechanism, which means that the financial reward is separated from the volume of the antimicrobial sold.¹⁹⁰ This is an effective and promising mechanism, since a company can now choose to develop a new antibiotic and justify the investment by selling the TEV to another company wanting to extend exclusivity on a high-revenue product. The novelty of the TEV mechanism in revised EU pharmaceutical legislation is that it constitutes the first implementation of such a model in practice, despite proposals in several jurisdictions.¹⁹¹

The concept of the TEV is ambitious, and a lot of the concerns surround the targeting of the mechanism, the question of whether it will reward genuinely innovative antimicrobials. From the outset, it must be observed that the Union legislator views the TEV as an exceptional reward, rather than a general extension of exclusivity, and this is evident from the limited duration of the provisions and the cap on the total number of vouchers.¹⁹² Furthermore, there is another inherent key design tension in the TEV. The voucher's transferability and flexibility, which constitutes the most valuable and attractive asset for the mechanism's effectiveness as an incentive, comes with a necessary trade-off. Although the mechanism rewards innovative antimicrobials towards public health designations, criteria and lists, the transferability shifts the benefit of the RDP extension to products with potentially no clinical contribution AMR.¹⁹³

¹⁹⁰ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

¹⁹¹ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

¹⁹² Lindsey Kent and Chris Lindsay, 'Transferable Exclusivity Vouchers for Antimicrobials under the EU Pharma Package' (*Abel + Imray*, 23 April 2026) <<https://www.abelimray.com/resources/newsletters/transferable-exclusivity-vouchers-for-antimicrobials-under-the-eu-pharma-package>> accessed 15 May 2026.

¹⁹³ Kent and Lindsay (n 192).

With this in mind, it is important to assess the targeting of the mechanism in a practical manner. The objective of the mechanism is to reward highly innovative antimicrobials, as reflected in the conditions for a medicine to be designated a *priority antimicrobial*.¹⁹⁴ A test of the antibacterial agents in the pipeline against these conditions, however, does not yield promising results. In the 2024 annual WHO report on the state of development of antimicrobials, only 12 out of 57 traditional antibacterial agents fulfilled at least one of the WHO innovation criteria. Out of those 12, only 4 are active against at least one WHO “critical” pathogen, and 6 are active against “high” and “medium” priority pathogens.¹⁹⁵ The TEV conditions are designed to reward genuine clinical advancement — yet at a time where most new antibiotics are approved on the basis of non-inferiority to existing treatments alone, the results above raise serious questions as to whether those conditions are sufficiently grounded in the realities of antimicrobial development.

Another element central to the proposed TEV mechanism, which is worthy of evaluation, is the obligation for public disclosure of the priority antimicrobial’s funding. As mentioned above, the EU legislator’s main aim with this requirement is to ensure financial transparency around the R&D of the priority antimicrobial, so as to avoid the risk of overcompensation of investment.¹⁹⁶ It can be argued that this obligation is a necessary safeguard against opportunistic behaviour, such as the scenario of a company strategically structuring the funding of an antimicrobial to maximise the perceived value of the voucher and sell it at an inflated price. Bad faith aside, the transparency requirement also ensures that overcompensation is avoided

¹⁹⁴ Valtere (n 168) 10.

¹⁹⁵ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

¹⁹⁶ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 81.

for a TEV that has already received substantial push funding in the context of other Union initiatives against AMR.¹⁹⁷

On the other hand, experts in the field such as researchers, health economists and industry representatives have expressed concerns regarding the benefit of the transparency obligation. Firstly, there is expert consensus that the information on direct public support is already available, from AMR initiatives such as CARB-X, GARDP and HERA.¹⁹⁸ This comes together with a general scepticism regarding the usefulness and added value of requiring companies to break down R&D costs, which could even be seen as a detractor for investors in the antimicrobial.¹⁹⁹ Furthermore, the disclosure obligation creates friction with the protection of trade secrets, as revealing detailed funding sources risks exposing commercially sensitive information, potentially deterring the investment the TEV is designed to attract.²⁰⁰ Beyond this, the industry has warned of a broader chilling effect: if mandatory transparency of public funding leads regulators or policymakers to apply cost-plus logic to pricing — whereby a product that received more public money is deemed to warrant a lower market reward — developers would in effect be penalised for accessing push funding. This would risk undermining the very attractiveness of the TEV by turning public support from an asset into a liability.²⁰¹

The question of cost and access are crucial to the discussion on the TEV extension of RDP. The granting of a TEV according to the provisions of Articles 40 - 43 of the Regulation does not ensure the actual availability of the priority antimicrobial on the market. The access of medicines to markets

¹⁹⁷ See Chapter 3.4.

¹⁹⁸ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

¹⁹⁹ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

²⁰⁰ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

²⁰¹ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

depends on national pricing and reimbursement decisions, and developers may prioritise more profitable markets.²⁰² Although the mechanism could have included contractual access provisions to ensure supply, this was not the case. This design choice unfortunately keeps antimicrobials prone to the danger of market failures through removal of antimicrobials from the market for safety reasons or non-reimbursement due to lack of cost effectiveness.

The mechanism brought forward in the new Regulation does little on this front. The only access prerequisite set out by the legislator is that the developer demonstrates their capacity to supply the product according to the needs of the Union, which seems difficult to prove objectively and unclear, as argued above in Chapter 4.3.²⁰³ Additionally, the mechanism includes a safeguard after the grant of the TEV by means of Commission revocation of the voucher, if a demand for supply is not met. However, this mechanism applies only before the transfer of a TEV takes place, resulting in no further remedies in case the original recipient fails to ensure supply after the voucher has been transferred. This constitutes a central criticism of the TEV system, as it inherently risks failing to guarantee equitable access to the very antimicrobials it aims to incentivize.²⁰⁴ In this context, the RDP exception under Article 42(3) — clearing the path for generic competition only once the priority antimicrobial has already been withdrawn — reads as a residual safeguard that addresses the consequences of market failure rather than preventing it, and falls short of a substantive access guarantee. The same can be argued for the recommendation towards Member States to combine the TEV with the voluntary subscription model, which is an optional route that cannot guarantee that the antimicrobials will be supplied.

²⁰² García-Díaz, Mestre-Ferrándiz and Espín (n 180).

²⁰³ Valtere (n 168) 13.

²⁰⁴ Valtere (n 168) 13.

With regard to the cost of the TEV mechanism, it must be specified that this term can refer to two notions — the financial value of the sale for the transfer of a voucher, and the savings lost by national healthcare systems due to delayed generic and biosimilar entry. Although the mechanism is a step forward for the development of novel antimicrobials to address AMR, there is no guarantee that the high sale price of the voucher, which reflects the demand for additional exclusivity, will also reflect the wider societal value of the treatments.²⁰⁵ Instead, there is a high risk that the TEV will overcompensate and give a disproportional reward to developers while not addressing the real obstacles of developing a healthy pipeline²⁰⁶

The opportunity cost borne by Member States, as mentioned above in Chapter 4.3, refers to the difference between sales of the originator product during the extended exclusivity with the TEV, and the combined originator and generic sales in the same year in a counterfactual scenario without the TEV. This societal cost has been the subject of intense criticism for the TEV model, with several Member States expressing concern through a non-paper. Specifically, they voiced worries that the mechanism would not always directly benefit the developers contributing to new antimicrobials, while stifling innovation and generic competition and leading to high costs to national systems.²⁰⁷ It is important, however, to point out that Member States with limited generic competition will incur significantly lower costs for TEVs, which will in turn be less attractive as incentives.²⁰⁸ To add some specifics, a recent report commissioned by EFPIA estimates the total EU cost at approximately €162 million per TEV, around 45% lower than the Commission's original estimate

²⁰⁵ Van de Wiele and others (n 176) 214.

²⁰⁶ Van de Wiele and others (n 176) 214.

²⁰⁷ Netherlands and other EU Member States, 'Non-paper – Novel Stimuli for the Development and Keeping on the Market of Antimicrobials' (1 December 2022) 1.

²⁰⁸ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

of €294 million.²⁰⁹ A necessary contextualisation must also be added: the relevant comparator for the cost of the TEV is not an ideal market with perfect generic competition, but the cost of inaction, and in that case, the annual cost of AMR to European healthcare systems has been estimated at approximately €1.5 billion.²¹⁰

Overall, the TEV mechanism represents a deliberate move to new economic models decoupling financial reward from sales volume, in an attempt to incentivize innovation, through the promise of additional RDP. It is the first implemented instance of a voucher-based pull incentive, and its embedding in the reformed pharmaceutical legislation positions the EU as a potential global leader in AMR innovation through a delinkage mechanism — a development that may catalyse similar approaches in other regions.²¹¹ Nonetheless, such one-off rewards raise inherent concerns around predictability and conditionality, and must ultimately be coupled with stewardship and access obligations, in order to meet the aim of the Commission’s Action Plan of reconciling innovation incentives with responsible use.²¹² A gradient length of the RDP extension, calibrated to the degree of clinical benefit of the new antimicrobial, would have been a more proportionate design choice, aligning reward with public health value — though variable lengths would risk producing TEVs too short to generate meaningful commercial interest.²¹³ The choice of the most valuable product

²⁰⁹ Tim Wilsdon, Anna Robson and Lanting Lu, *A Framework for Assessing the Potential Net Benefits Realised through Transferable Exclusivity Extension (TEE) as an Incentive for Development of Novel Antimicrobials: Final Report* (Charles River Associates for EFPIA 2022) 40.

²¹⁰ Commission, *The AMR Challenge* (Factsheet, June 2023) <https://ec.europa.eu/commission/presscorner/api/files/attachment/875387/Factsheet%20Pharma%20AMR_EN.pdf> accessed 10 April 2026; Commission, *Proposal for Directive 2023* (n 5) 12.

²¹¹ García-Díaz, Mestre-Ferrándiz and Espín (n 180).

²¹² Valtere (n 168) 1.

²¹³ Van de Wiele and others (n 176) 215.

for the TEV extension to be applied to, under the conditions set out in the new Regulation, requires careful thought and strategic balancing against the risk of revocation and the public disclosure obligation.²¹⁴ Despite the aforementioned shortcomings, the industry position is that the societal benefits of the TEV are far likely to exceed the costs, and the mechanism is broadly considered a sound response relative to the cost of AMR inaction, albeit with significant real-world uncertainty due to the mechanism being first-of-a-kind.²¹⁵

²¹⁴ Kent and Lindsay (n 192).

²¹⁵ Wilsdon and others (n 209) 40.

5. Redesigned RDP, Innovation vs Access and AI-Driven R&D

As shown in Chapters 3 and 4 above, the UMN and TEV mechanisms for RDP extension constitute novel conditional instruments through which medicine developers may obtain prolonged exclusivity, by redirecting their innovation efforts towards underserved disease areas. Both mechanisms are overall sound — from the perspective of legal certainty and incentive design — although several points still require clarification through guidelines and regulatory practice. A degree of uncertainty is, in any event, inherent in novel legal mechanisms of this magnitude.

As emphasised throughout this thesis, the change brought about by the Pharma Package to the RDP rules is significant: the regulatory logic of exclusivity has shifted from rewarding marketing authorisation as such to rewarding specific R&D and access behaviours. That shift must, however, be assessed against the classic tension running through pharmaceutical law — the balance between the interests of originator and generic companies, that is, between innovation and exclusivity versus access and generic market entry.²¹⁶ Ensuring that both interests are addressed and advanced has been a central goal of the legislative reform.²¹⁷

Building upon the analysis of the UMN and TEV mechanisms in the preceding chapters, this chapter examines whether the redesigned RDP framework delivers on this dual objective. The chapter then closes with an open-ended reflection — rather than a full legal review — on whether a

²¹⁶ Maria Isabel Manley and Maria Georgiou, 'Pricing, Reimbursement and Health Technology Appraisals (Market Access)' in Manley and Vickers (n 27) 111–112.

²¹⁷ See Chapter 2.3.

framework that conditions exclusivity on specific R&D and public-health behaviours will remain meaningfully calibrated in the coming years, as Artificial Intelligence (AI)-driven medicinal innovation accelerates. The Pharma Package itself acknowledges in its recitals that AI-generated evidence may inform regulatory decision-making, and both the EMA and EFPIA have issued position papers and guidance on the use of AI in the medicinal context, making the question one the framework cannot avoid for long.

5.1. The Dual Objective of the Redesigned Framework

Although the redesigned RDP framework offers several exclusivity extensions, the legislative intent and effort in the field cannot stray away from the classic tension in pharmaceutical markets, that of originator innovation versus generic competition.²¹⁸ This represents one of the central balancing challenges for the Union legislator, attempting both to incentivise innovation in the form of new medicines and to ensure equal and timely access to affordable treatments through generic market entry.²¹⁹ Acknowledged above in Chapter 2.3, this balancing task is explicitly mentioned as part of the legislative reform's goals.²²⁰

It has already been stated that RDP is an exclusivity for novel medicines that is highly sought after by developers to recoup the high costs undertaken for R&D.²²¹ To assess the effect of the renewed RDP framework on originators and generics, it is first necessary to compare the maximum duration of RDP with that currently available under Directive 2001/83. Under the current rules,

²¹⁸ Colangelo (n 25) 15-17.

²¹⁹ See Chapter 2.2.

²²⁰ See Chapter 2.3.

²²¹ Sandra Adamini and others, 'Policy Making on Data Exclusivity in the European Union: From Industrial Interests to Legal Realities' (2009) 34 *Journal of Health Politics, Policy and Law* 979, 987; Fabian Gaessler and Stefan Wagner, 'Patents, Data Exclusivity, and the Development of New Drugs' (2022) 104 *Review of Economics and Statistics* 571.

a novel product can enjoy eight years of data exclusivity, followed by two years of market exclusivity and a further year for a new indication, culminating in eleven years of exclusivity.²²² Under the renewed framework, a company can enjoy eight years of data exclusivity, a potential ninth year via a TEV, two years of market exclusivity and an additional year for a new indication, reaching a total of twelve years of protection.²²³

Despite this extra year of potential protection for developers of novel medicines, the new framework makes exclusivity substantially more conditional and harder to secure. In practice, the second year of market exclusivity that is automatic in the current framework is now conditional upon one of the pathways offered in Article 81 of the new Directive. This means that the additional overall year corresponds largely to the possibility of extending data exclusivity through a TEV.

The impact of these changes is significant and overall restrictive for developers of innovative medicines. Under the current framework, the second year of market protection is granted automatically; under the new framework, it becomes conditional on fulfilling one of the conditions in Article 81. Developers who cannot or do not meet any of these conditions - UMN, comparative trials, timely EU filing — will receive a shorter effective exclusivity than they enjoy today, and must therefore actively realign and redirect their development and regulatory strategies to preserve what the current system grants by default.

Although the revised RDP framework offers several pathways to extended market exclusivity, they are alternative and cannot be stacked, due to the cap

²²² Directive 2001/83/EC (n14) art 10(1).

²²³ Council, *Final Compromise Text for Directive 2026* (n 55) arts 80,81.

on two years of total market exclusivity.²²⁴ From the perspective of medicine developers, this may be seen as a loss of opportunity, since a developer could theoretically meet several pathways without only marginal extra effort — for instance, a product demonstrating clinically relevant improvement in efficacy through comparator-based evidence may simultaneously satisfy the UMN conditions, yet the developer is directed to one route only and cannot combine it with a comparator-based extension under Article 81.²²⁵ On the other hand, the similarities between the alternative conditions indicate a deliberately flexible framework with multiple options for a developer to obtain the coveted exclusivity.

Given that AMR is recognised as a prime example of unmet medical need, the TEV and UMN extension are the most likely candidates for combination — and indeed, the only way a developer can accumulate RDP extensions is by pairing one of the market exclusivity extensions with the TEV's data exclusivity extension.²²⁶ In theory, a priority antimicrobial could unlock both the UMN extension and the granting of a TEV, if it contained a new active substance addressing a serious or life-threatening disease with no authorised medicinal product on the market, or through a distinctly different mechanism of action combined with a clinically relevant improvement over existing treatments. Achieving this, however, would require a tightly engineered development programme that simultaneously meets demanding clinical, regulatory and timing conditions.

The TEV mechanism does not adequately counterbalance the loss of one year of automatic market protection. Designed as an exceptional, time-limited reward — capped at five vouchers or at fifteen years — it is an inherently

²²⁴ See Chapter 2.3.

²²⁵ See Chapter 3.3.

²²⁶ See Chapter 4.3.

narrow instrument rather than a durable mechanism for the exclusivity landscape.²²⁷ Its transferability introduces commercial value to spark the development of priority antimicrobials, but also means that the benefit accrues to whichever product the voucher is applied to, not necessarily the antimicrobial pipeline which the mechanism is meant to stimulate. This way, the TEV extension may benefit the exclusivity of an originator product already on the market, but not the innovative originator company developing a priority antimicrobial.

Against this background, it can be argued that the high value and attractiveness of RDP for the industry was chosen by the Union legislator as the vessel for advancing the legislative reform's goal of offering an attractive, innovation-friendly environment for pharmaceutical R&D.²²⁸ Although the formulation of these conditions poses some legal certainty gaps and design problems, developers are likely to conform to these new requirements in pursuit of the additional exclusivity offered.

Apart from catering to the need to reward innovation through regulatory exclusivity, the RDP framework must also ensure the timely access of generics and biosimilars to the markets. This way, medicines reach a larger number of patients and also become significantly more affordable.²²⁹ Therefore, the Union legislator must be wary of extending exclusivity to the detriment of generic competition.

²²⁷ Kent and Lindsay (n 192).

²²⁸ Commission, *Proposal for Directive* 2023 (n 5)12.

²²⁹ Colangelo (n 25)16; Copenhagen Economics, *Study on the Economic Impact of Supplementary Protection Certificates, Pharmaceutical Incentives and Rewards in Europe* (Final Report, European Commission 2018) 14, 144.

Although the renewed RDP framework offers one more year of overall exclusivity, it also includes meaningful structural countermeasures and features for preserving generic competition. The hard cap on market exclusivity prevents the scenario of open-ended stacking of exclusivity and subsequent detrimental delay of generic market entry. Furthermore, the transparency provided through the lists of products under regulatory protection, including prolongations, published by national authorities, provides generic manufacturers with legally guaranteed visibility and enhanced clarity for filing and launch strategies. As of now, RDP status is derivable from public data but is not directly displayed anywhere. The new publication obligation under Article 80(5a) of the Directive therefore represents a genuine transparency improvement, particularly for generic manufacturers.

A further structural feature of the revised framework that operates in favour of generic manufacturers is the deliberate choice to frame all RDP extensions — with the sole exception of the TEV — as extensions of market protection rather than data protection. This distinction is practically significant: under market protection, competitors are not barred from applying for and obtaining a marketing authorisation through the abridged procedure during the extension period, but only from placing their product on the market. Generic developers can therefore complete their regulatory dossier, obtain authorisation, and position themselves for immediate market entry the moment exclusivity lapses — a preparation window that data protection would entirely foreclose. By confining the data protection model to the TEV alone, the legislator has preserved the ability of generic manufacturers to proceed through the authorisation pipeline in parallel with the originator's extended exclusivity.

Regarding the TEV mechanism, the legislative choices further indicate consideration of generic interests. The transferability and sale of the voucher for use on a different product than the antimicrobial it was granted for can be perceived as a major threat for generics — a company marketing a successful originator product can, in simple terms, purchase one additional year of market exclusivity. In this vein, the revenue cap on the recipient product safeguards generic entry into fields dominated by blockbuster drugs by excluding them from the TEV's scope of applicability. At the same time, limiting the TEV's use to the fifth and sixth year of data protection and subjecting the mechanism to a sunset clause allows generic manufacturers to plan entry without the risk of last-minute ambush extensions. Finally, to safeguard generic and biosimilar access in the antimicrobial field, the Union legislator removed RDP where a priority antimicrobial is withdrawn from the Union market before RDP expiry.

To summarize, the redesigned RDP framework moves meaningfully towards its dual objective, but in an asymmetric design. On the one hand, it preserves and even extends the overall ceiling of regulatory protection and makes that protection more valuable for those originators willing and able to align their development choices with Union public-health priorities. On the other hand, it overlays that protection with hard caps, transparency obligations, and strict conditions for extension — most notably for the TEV — which collectively work to prevent exclusivity from expanding unchecked at the expense of generic and biosimilar entry. Whether this recalibration ultimately delivers “enough” innovation while still securing timely, affordable access will depend on how regulators apply the open-textured concepts at the core of the system — in particular UMN and *clinically relevant improvement in efficacy or safety* — but the legislative design itself consciously addresses both sides of the equation. Whether that calibration holds up over time, however, rests

on an assumption the framework leaves unexamined: that the cost and effort behind each qualifying behaviour will remain roughly what they are today.

5.2. Looking ahead: Exclusivity in an era of AI-Driven R&D

The reform of the pharmaceutical legislation via the Pharma Package arrives at a critical moment, seeking to update the regulatory architecture of a field that looks markedly different from what it did at the time of the previous reform more than two decades ago. In the area of pharmaceutical R&D in particular, scientific and technological progress has fundamentally reshaped the way new medicines are developed — most recently through the rapid uptake of Artificial Intelligence across the field.

The Pharma Package legislative instruments expressly acknowledge the entry of AI in the medicinal product lifecycle, through the Recitals of both the new Directive and the new Regulation.²³⁰ Specifically, the Directive provides that data generated through *in silico* methods — meaning through computer simulation — such as “*computational modelling and simulation, molecular modelling, mechanistic modelling, digital twin and artificial intelligence*” can be used to support regulatory decision making, where appropriate.²³¹ In the same vein, the Regulation states that the data generated through the same *in silico* methods as listed above can be used to support regulatory decision-making on the development, authorisation and supervision of medicinal

²³⁰ Lincoln Tsang and Hannah Kerr-Peterson, 'Unpacking the EU Pharma Package' (*Ropes & Gray Alert*, 6 March 2026) <<https://www.ropesgray.com/en/insights/alerts/2026/03/unpacking-the-eu-pharma-package>> accessed 15 May 2026.

²³¹ Council, *Final Compromise Text for Directive 2026* (n 55) recital 30.

products.²³² In the same Recital, the Regulation clarifies that through these capabilities, the EMA can take advantage of all the potential of supercomputing, artificial intelligence and big data science, to fulfil its mandate.²³³

The EMA has recognised that AI tools can effectively support the acquisition, analysis and interpretation of data within the medicinal product lifecycle, through its Reflection paper on the use of AI in the medicinal product lifecycle.²³⁴ EFPIA further specifies that the pharmaceutical lifecycle is now experiencing a wider range of novel AI approaches, beyond machine learning and robotic process automation, which have been used in medicine development for decades.²³⁵ AI is now present in discovery, non-clinical development, clinical trials, marketing authorisation and post-authorisation stages of the medicinal lifecycle, and is of relevance to developers, MA applicants, MA holders, manufacturers and regulators.

The innovative pharmaceutical industry is using AI tools to optimise complex processes, leading to more effective and efficient development pathways.²³⁶ An example is the use of AI-driven synthetic data to address challenges in clinical research settings.²³⁷ The generation of synthetic data through AI can fill data gaps in clinical trials such as limited patient enrolment and retention,

²³² Council, *Final Compromise Text for Regulation 2026* (n 68) recital 60.

²³³ Council, *Final Compromise Text for Regulation 2026* (n 68) recital 60.

²³⁴ European Medicines Agency, *Reflection Paper on the Use of Artificial Intelligence (AI) in the Medicinal Product Lifecycle* (EMA/CHMP/CVMP/83833/2023, 9 September 2024) 4.

²³⁵ European Federation of Pharmaceutical Industries and Associations, *EFPIA Position on the Use of Artificial Intelligence in the Medicinal Product Lifecycle* (October 2024) 2 <<https://www.efpia.eu/media/tzeavw1t/efpia-position-on-the-use-of-artificial-intelligence-in-the-medicinal-product-lifecycle.pdf>> accessed 15 May 2026.

²³⁶ EFPIA, *Position on AI* (n 235) 2.

²³⁷ European Federation of Pharmaceutical Industries and Associations, *AI Across the Medicines Lifecycle: Insights from Preliminary Case Studies and Considerations for Policy* (December 2025) 14.

especially for heterogeneous chronic or rare diseases, and insufficient availability of high-quality real-world data.²³⁸ Another example is the use of AI-driven target identification to discover the biological molecules driving diseases, and the use of AI-generated synthetic comparators in trials.

In light of the impact AI has had and will continue to have on pharmaceutical R&D, the question is raised whether the renewed RDP framework is calibrated towards this environment or potentially rests on assumptions about R&D cost and effort that AI is already in the process of unsettling. The framework's conditional rewards assume a particular level of R&D cost, risk and effort behind each qualifying behaviour for additional protection, even if that is not expressly mentioned in the Articles. The question then arises, whether the RDP rules risk over-rewarding easy AI-assisted qualification and under-rewarding genuinely hard innovation. In other words, whether the price the public pays for exclusivity — through generic and biosimilar delay — will remain proportional to the effort actually exerted by developers to meet the requirements.

Concretely, AI may contribute to fulfilling each of the conditional rewards of the RDP framework, although in different ways and to different degrees. Synthetic comparators could significantly assist in qualifying products for the UMN extension, given the usefulness of AI-assisted evidence in rare diseases. Furthermore, the relevant and evidence-based comparator conditions could also be met using AI-generated synthetic comparators already qualified by the EMA, subject of course to the Agency's opinion on relevance. Lastly, for the TEV mechanism, the contribution of AI is mostly concentrated in early discovery and non-clinical development, where generative chemistry models

²³⁸ EFPIA, *AI Across the Medicines Lifecycle* (n 237), 14.

and AI-driven target identification have already produced novel antimicrobial candidates.

Given how concretely AI may contribute to fulfilling the conditional rewards of the redesigned RDP framework, it is worth noting how much of the framework's substance is left to be settled outside its operative text. The legislation's Recitals acknowledge AI-generated and *in silico* data as permissible inputs to regulatory decision-making, but they do not address whether AI was considered when calibrating the assumed cost, risk and effort behind the conditional exclusivity rewards. This omission is particularly striking given that the legislator demonstrably chose flexibility as a drafting tool elsewhere in the framework — most notably in delegating the qualification of unmet medical need to evolving EMA guidelines, precisely because of the field's dynamic nature.²³⁹ If that same awareness of change informed the treatment of UMN, one must ask whether AI's transformative impact on R&D was equally considered, and if so, whether its implications could be implicitly reflected in the framework's calibration of cost, risk and effort — or whether this remains an unaddressed gap.

As shown throughout this thesis, the operative provisions themselves also leave a great deal to be developed through delegated acts, EMA guidelines, scientific advice and emerging practice — from the qualification of UMN to the standards for relevant and evidence-based comparators. Two readings of this open-endedness are possible. On a more generous reading, the legislator anticipated that R&D conditions would evolve — with AI as the most immediate source of pressure — and deliberately kept the operative text at principle level. Detailed thresholds in primary legislation would freeze a framework that needs to track a fast-moving science. The reliance on future

²³⁹ See Chapter 3.

EMA guidelines, and the recommendation from both regulator and industry for early and detailed regulatory interaction when developers use AI tools, then become the very mechanisms through which a future-proofed framework absorbs new technologies in real time. On this view, the open-endedness is *foresight*: the text says what it should say, and soft law does what soft law is for.

On a more sceptical reading, the legislator could have specified the conditions more tightly and chose not to. The question of calibration and practical thresholds was left to be worked out downstream by the EMA, the Commission and ultimately the CJEU. The same reliance on guidelines then looks less like adaptive design and more like the transfer of substantive criteria out of the operative text; the need for early regulatory interaction betrays that the text does not yet supply clear answers. On this view, the open-endedness is *deferral*: the framework looks future-proof but is in fact under-specified, with substantive calibration of the conditions — including how AI's role in fulfilling them is to be valued — shifted away from the legislative text and left to be developed gradually in practice.

The two readings are not mutually exclusive, and the answer is probably a mix. Yet the fact that the operative text leaves the calibration questions open, and that EMA and industry guidance both fill that space by recommending early regulatory dialogue, tilts the balance toward the sceptical reading: substantive calibration of the conditions — including the place of AI in fulfilling them — sits outside the legislation, emerging over time through guidelines, delegated acts and case-by-case decisions rather than through a clear, upfront legislative settlement.

6. Conclusion

The aim of this thesis was to present and systematise the changes in the framework of regulatory data protection introduced through the Pharma Package reform of the pharmaceutical legislation. More precisely, the thesis addressed the extensions of regulatory protection, honing in on two mechanisms: the unmet medical need extension of Articles 81 and 83 of the new Directive, for extending market exclusivity, and the transferable exclusivity voucher for priority antimicrobials of Articles 40–43 of the new Regulation, for extending data exclusivity. The objective was to analyse these legal mechanisms, systematise them in the context of the other exclusivity extensions and evaluate them on the basis of legal certainty and incentive design. Additionally, the thesis assessed how the renewed regulatory data protection framework delivers upon the dual objective of advancing targeted medicinal innovation while ensuring timely generic and biosimilar market entry. Finally, the thesis pursued a reflection on the calibration of the exclusivity extensions with regard to the rise of AI-driven medicinal R&D.

The temporal snapshot of this analysis is highly relevant, due to the status of the legal provisions assessed. The Pharma Package is the most significant reform of EU pharmaceutical legislation in more than two decades, and the redesigned regulatory data protection framework — and its conditional extension mechanisms in particular — is one of its most consequential and contested features. At the time of submission of this thesis in late May 2026, the final texts of the Directive and Regulation of the Pharma Package have not yet been adopted and published. The analysis is based on the agreed compromise texts of the legislation of February 2026, while the legislation will start to apply two years from its entry into force. This means that the analysis precedes the EMA guidelines, delegated acts, and national

implementing measures that will operationalise several open-textured concepts. The concepts and arguments developed in this thesis may therefore land differently upon final adoption and implementation of the new legislation. At the same time, the thesis aims to contribute to the sparse commentary and analysis of the new conditional extension mechanisms available at the time of writing, and to provide insight and considerations on the major imminent changes to regulatory data exclusivity in the Union.

In light of the above, and to answer the first sub-question the thesis set out to explore, the unmet medical need mechanism of the new Directive provides only a partially clear and predictable basis for medicine developers to extend market exclusivity. The new horizontal definition of unmet medical need in Article 83 includes two strong pillars, namely disease severity and absence of alternative treatment, which reflect established terminology of pharmaceutical law. However, the requirement of *clinically relevant improvement* falls short of legal certainty and remains open-ended, and will rely heavily on the guidelines to be issued by the EMA. With regard to incentive design, the UMN condition is a powerful but imprecise tool, as its binary mechanism and deference of substantive thresholds to soft law cannot address nuances in medical need and benefit. Overall, the UMN mechanism provides a certain level of foreseeability, but risks delivering only a symbolic recalibration, as its reliability as a long-term lever will depend on future EMA guidelines and implementation practice.

With regard to the second sub-question of the thesis, the transferable exclusivity voucher of the new Regulation provides an overall sufficiently clear and predictable basis for medicine developers to extend data exclusivity. The criteria for priority antimicrobial designation, as well as the conditions and limitations on the use and transfer of the voucher are adequately precise. Nonetheless, the obligation to demonstrate capacity to supply and to disclose

funding of the antimicrobial remain broadly sketched and cannot, as of now, provide enough foreseeability. From the perspective of incentive design, the TEV is a commendable first legislative attempt by the EU to reward antimicrobial development through a mechanism that delinks exclusivity from sales volume. Overall, the mechanism shows a sound design relative to the cost of AMR inaction and enjoys broad industry support, albeit real-world uncertainty inherent in a first-of-a-kind instrument.

To answer the third sub-question of the thesis, the redesigned regulatory data protection framework delivers upon the dual objective of rewarding targeted medicinal innovation, while simultaneously preserving timely market entry for generics and biosimilars, but in an asymmetric design. Developers of novel medicines can benefit from an extended ceiling of exclusivity by following different conditional paths, while developers of generics are protected through hard caps, transparency obligations and overall strict conditions on exclusivity extensions. Regarding the interplay with Artificial Intelligence, the exclusivity extensions are not yet meaningfully calibrated for an AI-driven R&D environment: the operative text rests on an unstated assumption about R&D cost and effort that AI is already unsettling, and substantive calibration has been left to EMA guidelines, scientific advice and emerging practice.

The findings of this thesis are subject to limitations beyond the temporal snapshot already discussed. The doctrinal scope set out in Chapter 1.4 means that the analysis cannot test how medicine developers, generic manufacturers and regulators will respond once the framework applies; several of the design concerns raised — particularly the binary character of the UMN extension and the strategic choice of which product receives extended exclusivity through the use of a voucher — are best resolved through empirical observation. The thesis also precedes the EMA guidelines and national

implementing measures that will operationalise the open-textured concepts at the core of the conditional mechanisms, most prominently *clinically relevant improvement in efficacy or safety*. Finally, the reflection in Chapter 5 on AI-driven R&D is open-ended by design: it identifies the question of whether the framework's conditional rewards remain calibrated as AI reshapes the cost and effort behind each qualifying behaviour but does not resolve it.

Several avenues for further research follow. Once the final text of the Pharma Package is published and EMA guidelines begin to emerge, an updated doctrinal assessment will be possible. Empirical studies of the first UMN extension decisions, the uptake of the first TEVs and the products to which the transferred vouchers are applied would test several of the design concerns raised here. Dedicated work on how AI-generated and in silico-evidence is to be valued in the assessment of conditional rewards would address the open question with which this thesis closes.

Overall, in response to the overarching research question, the new conditional regulatory data protection mechanisms of unmet medical need and transferable exclusivity vouchers establish a partially certain and predictable basis — clear in structural features, less so in substantive thresholds. The redesigned framework moves meaningfully towards the dual objective of rewarding targeted innovation and ensuring generic access, through an asymmetric design, but reserves the harder calibration work for soft law and emerging practice. Whether the framework's conditional rewards remain meaningfully calibrated as AI reshapes the cost and effort behind each qualifying behaviour is a question the legislation itself does not yet answer.

As emphasised throughout this thesis, the change brought about by the Pharma Package to the RDP rules is significant: the regulatory logic of

exclusivity has shifted from rewarding marketing authorisation as such to rewarding specific R&D and access behaviours, thereby recasting regulatory data protection as an explicit tool for steering innovation and access priorities rather than a mere add-on reward.

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