ALERT MEMORANDUM

Calculating Pharma Earnout Damages: Strategic Lessons for Designing Milestone Frameworks

July 24, 2025

This article follows up on our prior analysis of the Delaware Court of Chancery's liability determination in the Alexion-Syntimmune case, available at: https://www.clearygottlieb.com/news-and-insights/publication-listing/delaware-court-of-chancery-finds-buyer-failed-to-use-commercially-reasonable-efforts-in-pharma-milestone-payment-case

In designing the earnout structure, parties should anticipate how expectation damages would be determined by a court using a discounted, probability-weighted mathematical method.

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On June 11, 2025, the Delaware Court of Chancery established an important framework for how courts may approach the calculation of earnout damages in pharma milestone disputes in its most recent decision in *Shareholder Representative Services LLC v. Alexion Pharmaceuticals, Inc*.[1] In an earlier opinion (the "September Opinion"), the Court found that a buyer, Alexion, was liable for breach of contract for its failure to use commercially reasonable efforts to achieve milestones for which future earnout payments may have become due to the selling securityholders of Syntimmune, Inc.[2] The June 11 opinion adopted a probability-based mathematical framework to determine the amount of damages owed and it provides a number of important takeaways:

1. **Expected value damages** are recoverable for breached earnout obligations.
2. **Internal buyer assessments** can be used as primary evidence of milestone probabilities.
3. **Different discount rates** apply based on risk characteristics of milestone types.
4. **Sequential dependencies** can create compounding effects in damages calculations.

Background of the Dispute

The Transaction Structure

The dispute arose from Alexion's September 2018 acquisition of Syntimmune, Inc., a biotechnology company developing a monoclonal antibody treatment, ALXN1830, for treating rare diseases.

The acquisition provided for a $400 million upfront payment plus $800 million in earnout payments tied to the following eight specific drug development lifecycle milestones.

- **Milestone 1**: $130 million for completion of successful Phase 1 Clinical Trial (already achieved and paid);
- **Milestone 2**: $120 million for first dosing in Pivotal Clinical Trial (first indication);
- **Milestone 3**: $120 million for first dosing in Pivotal Clinical Trial (second indication);
- **Milestone 4**: $150 million for FDA regulatory approval (first indication);
- **Milestone 5**: $150 million for FDA regulatory approval (second indication);
- **Milestone 6**: $25 million for EMA regulatory approval (first indication);
- **Milestone 7**: $25 million for EMA regulatory approval (second indication);
- **Milestone 8**: $80 million for net sales across all indications exceeding $1 billion in a fiscal year.[3]

Development Challenges and Strategic Shifts

ALXN1830 initially focused on treating pemphigus vulgaris (PV), generalized myasthenia gravis (gMG), and warm autoimmune haemolytic anaemia (WAIHA) indications.[4] However, the program faced significant obstacles including contaminated drug supply, adverse patient reactions requiring trial pauses, and COVID-19 impacts that halted trials while competitors continued advancing.[5]

The strategic landscape changed significantly in July 2021 when AstraZeneca acquired Alexion. The new parent company launched a portfolio review seeking $500 million in recurring synergies. In this cost-cutting environment, Alexion deprioritized the gMG and WAIHA programs in favor of thyroid eye disease (TED) and chronic antibody-mediated

[1] *S'holder Representative Servs. LLC v. Alexion Pharms., Inc.*, No. 2020-1069-MTZ, 2025 WL 1661215 (Del. Ch. June 11, 2025).
[2] *S'holder Representative Servs. LLC v. Alexion Pharms., Inc.*, No. 2020-1069-MTZ, 2024 WL 4052343 (Del. Ch. Sept. 5, 2024) (hereinafter, "Sep. Op.").
[3] *S'holder Representative Servs. LLC*, 2025 WL at *2.
[4] *Id.* at *3.
[5] *Id.* at *3-4.

rejection (cAMR) indications where it could potentially be first to market.[6]

Decision to Terminate Programs

Despite receiving promising HV-108 study data in September 2021 and an outside consultant's November conclusion that the data supported resuming studies, Alexion made the decision to terminate the ALXN1830 program entirely on December 14, 2021.[7] The September Opinion concluded that this termination breached Alexion's efforts obligation, finding that "the preponderance of the evidence supports the conclusion that the decision was influenced, motivated by, or driven by AstraZeneca's pursuit of merger synergies."[8]

The Court's Damages Methodology

Following the liability determination, the court held that the selling securityholders' injury is best understood as the lost expected value of each milestone, calculated by comparing values before and after Alexion's breach of its efforts obligation.[9] The court set out to determine the amount of the lost expected value, using a four-step process outlined below.

1. *Selecting the Probability Data*

The court evaluated four distinct sources of estimated probabilities for achieving the milestones:

(a) Target-Side Analysis: Shortly after Alexion acquired Syntimmune, Syntimmune's largest former stockholder Apple Tree Partners ("ATP") valued its right to future distributions from Milestones 2 through 8 based on the milestone amounts and probabilities of achievements. ATP estimated the milestone probabilities based on discussions with management and considering the current status of clinical trials, as well as observed clinical trial success rates.[10]

(b) Buyer's Pre-Clinical Trial Prediction: Shortly before Alexion's breach of its efforts covenant, Alexion produced a set of internal predictions of clinical and regulatory success, set by those with detailed knowledge of the ALXN1830 program and untainted by a desire to terminate the program.[11] However, these predictions were made without the benefit of data received from Phase 1 trial.

(c) Buyer's Post- Clinical Trial Prediction: Following the Phase 1 trial, Alexion reduced the probabilities of successful Phase 2 study and overall probability of technical and regulatory success at a time it already determined to terminate ALXN1830.[12]

(d) Expert's Database Analysis: An expert witness offered calculations based on his open-source database "of experimental medicines and their likelihood of being approved" called the Clinical Drug Experience Knowledgebase ("CDEK").

After weighing the credibility and reliability of these predictions, the court acknowledged that none of these four sources is perfect, but buyer's pre-clinical trial prediction ("Pre-HV-108 Data") was the strongest evidence.[13]

2. *Defining Probability Inquiries*

The Pre-HV-108 Data assigned a probability of success for Phase 2 trial and a probability for FDA approval for each of the two indications, TED and cAMR, as we illustrate below. Relying on probability data adduced at trial, the Court calculated each Milestone's probability of success as follows.[14]

[6] *Id*.
[7] *Id.* at *4.
[8] *Id.* (quoting Sep. Op. at *48).
[9] *Id.* at *17.
[10] *Id.* at *2-3.
[11] *Id.* at *18.
[12] *Id.* at *3-4.
[13] *Id.* at *18.
[14] *Id.*

Milestones	Probability Inquiry	Probabilistic Calculation
Milestone 2: $120 million for first dosing in Pivotal Clinical Trial for the first indication	What is the probability that either TED or cAMR achieves a first dosing in a PCT?	$P(PCT_{TED} \cup PCT_{cAMR}) = 0.715$
Milestone 3: $120 million for first dosing in Pivotal Clinical Trial for the second indication	What is the probability that *both* TED *and* cAMR achieve a first dosing in a PCT?	$P(PCT_{TED} \cap PCT_{cAMR}) = 0.215$
Milestone 4: $150 million for FDA regulatory approval for the first indication	What is the probability that *either* TED *or* cAMR obtains FDA approval?	$P(FDA_{TED} \cup FDA_{cAMR}) = 0.538$
Milestone 5: $150 million for FDA regulatory approval for the second indication	What is the probability that *both* TED *and* cAMR obtain FDA approval?	$P(FDA_{TED} \cap FDA_{cAMR}) = 0.102$
Milestone 6: $25 million for EMA and country-specific regulatory approval for the first indication	What is the probability that either TED or cAMR obtains the requisite European approvals?	$P(EA_{TED} \cup EA_{cAMR}) = 0.295$
Milestone 7: $25 million for EMA and country-specific regulatory approval for the second indication	What is the probability that *both* TED *and* cAMR obtain the requisite European approvals?	$P(EA_{TED} \cap EA_{cAMR}) = 0.0256$

It is worth noting that, for purposes of Milestone 6 and Milestone 7, while the Pre-HV-108 Data did not assign any probability approval for EMA or country-specific regulatory approvals, the court assumed that EMA approval will be obtained as long as FDA approval is received (i.e., 100% probability of getting EMA approval once the FDA approval is obtained), and that after that, the country-specific approval would be "likely" to be obtained (i.e., a 50.1% probability).[15]

With respect to Milestone 8 (based on $1 billion in net sales in a fiscal year across all indications), the court relied on Alexion's 2021 model in which it expected the indications' combined revenues to surpass $1 billion in five years, including $1.35 billion peak annual sale. The court therefore viewed the achievement of Milestone 8 as "likely" (i.e., a 50.1% probability) and multiplied the probability for Milestone 5 by 50.1% to arrive at the probability of achieving Milestone 8 of 0.0511.[16]

3. *Calculating Expected Milestone Payments*

Following the calculation of each milestone's probability, the court multiplied the full amount of each milestone payment by its corresponding probability to determine the "expected" milestone payment.[17]

4. *Discounting to Present Value*

The court then discounted each expected milestone payment to its present value at the time of Alexion's breach to put the securityholders of Syntimmune in the same economic position they would have been in absent a breach.

— **Number of Periods**: In determining the number of years implicit in the present valuation

[15] *Id.* at *11.
[16] *Id*. at *18, *21.
[17] *Id*. at *18.

calculation, the court relied on an internal Alexion presentation deck, which laid out the timeline for achieving Milestones 2 through 5 and extrapolated the timing of Milestones 6 and 7.[18] For Milestone 8, the court relied on Alexion's internal projection of the peak sale year of 2036.[19]

— **Discount Rates for Milestones 2-7**: In determining the annual discount rate, the court concluded that, for Milestones 2 through 7, the discount rate is the risk-free rate plus Alexion's credit risk premium, which is equivalent to 3.58%, the Moody's Seasoned Baa Corporate Bond Yield as of January 2022 (the time of the breach).[20] The court held that the rate should not be further adjusted for issuer-specific risks because such risks were already fully taken into account in the probability analysis above.[21]

— **Discount Rate for Milestone 8**: The court held that the net sales metric carries additional issuer-specific risk and requires an additional risk premium.[22] Accordingly, the court adopted Alexion's weighted average cost of capital of 9% from 2018 as the discount rate for Milestone 8.[23]

By totalling the present value of all expected milestone payments described above, the Court calculated the aggregate pre-interest expectation damages for Alexion's breach of its efforts covenant to be $180,944,915.32.[24]

Buyer's Strategic Playbook: Minimizing Expected Value Exposure

1. *Tactically Allocate Earnout Value Across Development Cycle*

The Syntimmune structure created sequential dependencies where later milestones depend on earlier ones. As shown in the table above, the probability of achieving the later milestones decreases significantly. A buyer can minimize overall expected value through thoughtful design of each milestone and the sequencing of the milestones relative to each other, and by allocating a higher proportion of value to later milestones, since the probability of achieving those milestones will typically be much smaller.

2. *Leverage Discount Rate Differentials*

The court applied dramatically different discount rates based on risk characteristics:

— **Development/Regulatory Milestones**: 3.58%; and

— **Financial Performance Milestones**: 9%.

To illustrate the significance of the different discount rates used, Milestone 2 has an expected value of $85.8M and a present value of $75.5M, a mere 12% discount after applying the 3.58% discount rate, while Milestone 8 has an expected value of $4.1M and a present value of $1.1M, a whopping 73% discount after applying the 9% discount rate.[25]

A buyer may therefore favor earnouts with higher proportions of financial performance milestones (e.g., sales targets and profitability metrics).

3. *Incorporate Additional Regulatory Requirements*

In this case, Milestones 6 and 7 required additional reimbursement/pricing approvals in 3 of 5 European countries, adding regulatory complexity that reduced probability estimates. In defining a regulatory milestone, adding more conditions can have a significant probabilistic impact on the amount of potential expectation damages.

4. *Importance of Contemporaneous Records*

A buyer's contemporaneous records on a "clear day" speaking to the probability of achieving milestones will have persuasive value in later disputes. The Court ultimately adopted a version of such records as the most reliable source of probability.

The Court's present-value calculations show that extended timelines reduce damages exposure. If a

[18] *Id*. at *19-21.
[19] *Id*. at *21.
[20] *Id*.
[21] *Id*.
[22] *Id*.
[23] *Id*.
[24] *Id*. at *22.
[25] *Id*. at *22.

buyer documents realistic but extended development timelines, each additional year of delay would reduce present value through compounding discount effects.

Seller's Strategic Playbook: Maximizing Expected Value Protection

1. ***Front-Load High-Value, High-Probability Milestones***

Milestone 1 ($130 million) was achieved and paid, demonstrating the value of front-loading significant payments at earlier, higher-probability stages. Any probability analysis along the lines adopted by the Court in this case is likely to establish higher probabilities for earlier-in-time milestones.

A seller should therefore seek to concentrate larger payments in early-stage, high-probability milestones to secure value before program risks elevate.

2. ***Favor Development/Regulatory Milestones Over Financial Metrics***

The Court's discount rate methodology heavily favors development and regulatory milestones, which were assigned a lower 3.58% discount rate, over the financial milestone, which has a higher 9% discount rate.

Sellers should structure earnouts with emphasis on development and regulatory milestones rather than sales-based metrics to preserve more present value in damages calculations.

3. ***Create Multiple Indication Pathways***

The Syntimmune structure included separate milestones for the first and second indications (M2/M3 for dosing, M4/M5 for FDA approval, M6/M7 for EMA approval), creating multiple pathways to value realization. This diversification strategy increases overall expected value by providing alternative success routes.

4. ***Break Out Larger Milestones into Multiple Smaller Milestones***

The calculation of Milestones 6 and 7 suggests that receiving both EMA approval and certain country specific approval pushed the probability of each milestone down by one decimal point. The seller would be better served by breaking each of Milestones 6 and 7 into "mini milestones" correlated to each of EMA approval and country-specific approvals.

Conclusion: The Earnout Calculus

In the high-stakes world of pharmaceutical M&A and licensing, milestone design has become a sophisticated application of probability theory, financial planning, and legal strategy.

The Alexion decision provides useful guidance on pharmaceutical earnout strategy by creating a detailed roadmap for damages calculation. Buyers and sellers should consider the probability of milestone achievement, whether certain milestones should be decoupled, and the expected value consequences of breach across different milestone types and timeframes.

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