

Understanding Liquidation Preference and Exit Waterfalls in Healthcare Angel Deals

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Abstract

Liquidation preferences represent one of the most consequential yet frequently misunderstood components of venture financing in healthcare technology. This essay examines the mechanics of liquidation preferences and exit waterfalls through tl

lens of healthcare angel investments, exploring how these contractual provisions fundamentally alter the distribution of proceeds in acquisition and liquidation scenarios. Key topics include:

- The structural mechanics of participating versus non-participating preferences
- The multiplicative impact of preference stacks in multi-round financing scenarios
- Healthcare-specific considerations including regulatory exit constraints and strategic acquirer dynamics
- Quantitative modeling of waterfall scenarios across various exit multiples
- Practical guidance for angels navigating term sheet negotiations in the healthcare sector

The essay emphasizes that in healthcare deals, where exit multiples often cluster between two and four times invested capital due to regulatory complexity and buyout concentration, liquidation preference terms can swing outcomes by twenty to forty percent of total proceeds, making these provisions as important as valuation itself.

The Dinner Party That Cost Fifty Million Dollars

There is a moment in every healthcare technology investment when the champagne gets poured and everyone pretends the cap table does not exist. The company has announced its acquisition by a major health system or a strategic buyer, perhaps one of the usual suspects circling the digital health ecosystem with their corporate venture arms and integration roadmaps. The press release quotes the founder saying something inspiring about improving patient outcomes at scale. The investors issue statements about their conviction in the team and the transformative potential of the technology. Everyone posts on LinkedIn about the journey and the lessons learned, celebrating the privilege of backing exceptional entrepreneurs.

Then the spreadsheets come out and the celebration gets complicated very quickly. The company sold for two hundred million dollars, which sounds like an extraordinary outcome until you start running the waterfall analysis and realize the Series C investors with their two times participating preferred are walking away with eighty million before anyone else sees a dollar. The Series B investors with one point five times non-participating preferred get their choice of conversion or preference, and they will take the preference because the common is underwater at this valuation. The Series A angels who came in at a six million dollar valuation and felt brilliant about their early conviction are suddenly doing mental arithmetic and wondering whether their pro rata got diluted enough in the later rounds that their absolute return is less than the carry their fund manager is taking on other deals.

This is not a hypothetical scenario but rather a composite of several actual health technology exits from the past three years, where companies achieved what would traditionally be considered successful outcomes in the low nine figures, only to discover that the preference stack and the liquidation waterfall created a distribution of proceeds that bore almost no relationship to the ownership percentages on the table. One digital therapeutics company that sold for one hundred and seventy five million dollars in late 2023 saw its common stockholders, including founders who had been diluted down to eight percent ownership, receive less than twenty million dollars collectively because of a combination of participating preferences and multiple liquidation preference multiples across three financing rounds. The angels who participated in the seed round received approximately one point two times their money back after holding the investment for six years, which calculates to an internal rate of return barely above three percent annually, essentially treasury bill returns on an asset class that is supposed to compensate investors for taking extraordinary

Understanding why this happens requires going beyond the surface-level explanation about liquidation preferences that most angel investors receive in their introductory venture capital courses. The standard narrative goes something like this: liquidation preferences protect investors by ensuring they get their money back before common stockholders in the event of a sale or liquidation, which seems reasonable because investors put in cash and the founders put in sweat equity, and cash should have

priority claim. But this framing obscures the actual game theory and the mathematical realities of how these preferences interact with valuation multiples, participation rights, and the specific dynamics of healthcare exits where strategic buyers dominate and financial returns often cluster in a narrow band between two and five times revenue.

The Fundamental Architecture of Liquidation Preferences

At its most basic level, a liquidation preference is a contractual provision that determines the order and amount of proceeds that different classes of stockholders receive in a liquidity event, which includes not just actual liquidations but also acquisitions, mergers, and sometimes even initial public offerings depending on the provision is drafted. The standard formulation gives preferred stockholders right to receive a certain multiple of their investment, typically one times but sometimes higher, before any proceeds are distributed to common stockholders. This creates a priority stack where different tranches of preferred stock get paid out in reverse chronological order, with the most recent investors getting paid first and working backwards through the capital structure until you reach the common stock at the bottom.

But the devil lives in the participation rights, which determine what happens after preferred stockholders have received their preference amount. In a non-participating preferred structure, once the preferred investors have received their preference multiple, they must choose between keeping that amount or converting their preferred shares to common stock and participating in the remaining proceeds on a pro-rata converted basis. This forces a decision point and creates a mathematical threshold where conversion becomes advantageous. In a participating preferred structure, however, the preferred investors receive their preference amount first and then also participate in the remaining proceeds alongside the common stockholders on a pro-rata converted basis, which means they get paid twice and dramatically changes the distribution dynamics.

To make this concrete, consider a simplified healthcare angel scenario where an investor puts five million dollars into a company at a twenty million dollar post-valuation, receiving twenty five percent of the company as Series A Preferred with one times non-participating liquidation preference. If the company later sells for eighty million dollars, the investor faces a choice: take the five million dollar preference or convert to common and receive twenty five percent of eighty million which is twenty million dollars. Obviously the investor converts and takes twenty million. But if the company sells for only twenty million dollars, the investor would take the five million dollar preference because twenty five percent of twenty million is only five million, and the preference provides no additional value in this scenario. The breakeven point where the investor is indifferent between preference and conversion happens at four times the post-money valuation, which in this case is eighty million dollars.

Now consider the same scenario but with participating preferred. The investor receives the five million dollar preference first, leaving seventy five million dollars of remaining proceeds. Then the investor receives twenty five percent of that seventy five million on an as-converted basis, which is eighteen point seven five million dollars. The total distribution to the investor is twenty three point seven five million dollars out of eighty million, or nearly thirty percent of the total proceeds despite owning only twenty five percent of the company. The common stockholders, who own the remaining seventy five percent of the company, receive only fifty six point two five million dollars, or about seventy percent of the proceeds. The investor has effectively captured a disproportionate share of the value by virtue of the participation right.

Most participating preferred structures include a cap, typically set at two or three times the liquidation preference amount, which limits how much the investor can receive through the participation mechanism. Once the total distribution from preference plus participation exceeds the cap, the investor automatically converts to common and participates only on a pro rata basis. These caps create additional breakeven thresholds in the waterfall analysis and change the shape of the return curve for both preferred and common stockholders.

When Preferences Become Weapons

The complexity multiplies exponentially when you layer multiple rounds of financing with different preference terms, which is the reality for virtually every healthcare technology company that raises more than a seed round. Each new financing creates a new tranche of preferred stock with its own liquidation preference, and these preferences stack on top of each other in reverse chronological order. A company that raises a ten million dollar Series A at a forty million post-money valuation, then a twenty million dollar Series B at a one hundred million post-money valuation, and finally a forty million dollar Series C at a two hundred fifty million post-money valuation ends up with a preference stack of seventy million dollars before a single dollar reaches the common stockholders.

If all three rounds have standard one times non-participating preferences, the waterfall analysis is relatively straightforward. In an acquisition at three hundred million dollars, the Series C investors get their forty million first, then the Series B investors get their twenty million, then the Series A investors get their ten million, leaving two hundred thirty million dollars for distribution to all stockholders on a pro rata as-converted basis. Everyone converts at this exit value because their pro rata share of the remaining proceeds exceeds their preference amount. But if the exit happens at one hundred fifty million dollars, suddenly the math gets interesting. The Series C still gets their forty million, the Series B gets their twenty million, and the Series A gets their ten million, leaving only eighty million dollars for the common. At this point the preferred investors need to calculate whether converting to common and taking their pro rata share of the full one hundred fifty million is better than taking their preferences and participating only in the eighty million dollar residual.

The calculations become significantly more fraught when later stage investors negotiate for preference multiples greater than one times or for participating preferences without caps. These terms are increasingly common in healthcare venture deals where investors perceive heightened risk due to regulatory uncertainty, reimbursement complexity, or competitive intensity. A Series C investor who negotiates a two times participating preferred with a three times cap is fundame

changing the economics of every downstream liquidity event for all other stakeholders. In the three hundred million dollar exit scenario from above, instead of receiving forty million and then participating pro rata in the remaining proceeds, the investor receives eighty million off the top, then participates in the remaining two hundred twenty million, potentially receiving an additional forty four million if they own twenty percent of the company, for a total of one hundred twenty four million of three hundred million, or over forty percent of the proceeds despite owning only twenty percent of the equity.

What makes this particularly pernicious in healthcare deals is that the typical exit multiples in digital health and health tech cluster between two and four times revenue for software businesses and even lower for services-enabled models or those with significant regulatory overhang. A company doing twenty five million dollars in annual recurring revenue might realistically expect an exit in the fifty to one hundred million dollar range depending on growth rate, gross margins, and strategic value to an acquirer. If that company has raised sixty million dollars in total funding with a blended one point five times liquidation preference across multiple rounds, the preference stack alone is ninety million dollars, which means anything less than ninety million dollar exit leaves common stockholders with nothing even if the company achieved the median outcome for its category.

The Healthcare Multiplier Effect

Healthcare technology investments carry a unique set of characteristics that intertwine with liquidation preferences in ways that differ meaningfully from consumer internet or enterprise software deals. The buyer universe for healthcare exits is substantially more concentrated, with the top twenty potential acquirers representing roughly seventy percent of all M&A activity in digital health over the past five years according to data from Rock Health and Mercom Capital. These strategic buyers, which include the major health insurers, pharmacy benefit managers, health systems, pharmaceutical companies, and incumbent health IT vendors, typically underwrite acquisitions on strategic value and integration potential rather than pure financial returns, which creates pricing dynamics that reward companies with specific capabilities or cus-

relationships rather than those with the highest growth rates or largest total addressable markets.

This concentration of buyers intersects with liquidation preferences in several important ways. First, strategic acquirers are often willing to pay premiums for companies that solve specific integration or capability gaps in their portfolios, but these premiums are rarely large enough to generate venture-scale returns when spread across a diluted cap table with a heavy preference stack. A health insurer might pay one hundred fifty million dollars for a population health analytics company because it provides critical capabilities for their Medicare Advantage expansion, but if that company has raised eighty million dollars with various preference multiples, the founders and early angels may see limited upside despite creating significant strategic value for the acquirer.

Second, the regulatory complexity and sales cycles inherent in healthcare mean that capital efficiency is harder to achieve than in other sectors. Healthcare software companies typically require twelve to eighteen months to close initial enterprise deals with health systems or payers, and another twelve to twenty-four months to demonstrate ROI and expand within those accounts. This elongated timeline means companies burn more cash to reach scale, which necessitates larger funding rounds and more dilution. The median digital health company that reaches Series B has raised between thirty and fifty million dollars in total funding, compared to fifteen to thirty million for comparable B2B software companies in other verticals. This high cumulative capital raise creates larger preference stacks that consume a greater proportion of exit proceeds.

Third, the reimbursement landscape in healthcare creates a natural ceiling on valuations for many business models. Companies that rely on direct reimbursement from payers or government programs face lengthy validation periods and uncertain payment rates, which makes it difficult to project revenue with the confidence that growth-stage investors require. This uncertainty translates into lower revenue multiples at exit. While a high-growth SaaS company in another vertical might command eight to twelve times revenue in a strategic sale, a digital health company with even a similar growth profile might only achieve four to six times revenue

because of perceived reimbursement risk or regulatory exposure. This compress exit multiples relative to capital raised means that liquidation preferences consume a larger percentage of total proceeds.

Consider the mathematics in a representative scenario. A behavioral health platform raises a five million dollar seed round at a fifteen million post-money valuation, a fifteen million dollar Series A at a sixty million post-money valuation, and finally a thirty million dollar Series B at a one hundred eighty million post-money valuation. Total capital raised is fifty million dollars. The company grows to twenty five million in ARR over five years and receives an acquisition offer at four times revenue, or seven hundred million dollars, which would be considered a solid outcome in the behavioral health category. With standard one times non-participating preferences, the waterfall allocates thirty million to Series B, fifteen million to Series A, and five million to the founders, leaving fifty million for distribution on an as-converted basis. The Series B investors own roughly seventeen percent on a fully diluted basis, so they convert and take a pro rata share of one hundred million, which is seventeen million, rather than the ten million preference. Similarly for Series A and Seed. But the founders, who have been diluted down to twenty percent ownership through multiple rounds and an employee option pool, receive twenty million dollars pre-tax, which after six years represents an IRR barely in double digits.

Now assume the Series B investors negotiated a one point five times participating preferred, which is not unusual in behavioral health given the reimbursement uncertainty. The waterfall now allocates forty five million to Series B as a preference, leaving fifty five million in the pool. Then Series B participates in that fifty five million pro rata to their seventeen percent ownership, receiving an additional nine million, for a total of fifty four million out of one hundred million. Series A and the founders receive their preferences of fifteen and five million respectively, taking another ten million. This leaves only twenty six million for the common stockholders, and the founders who own twenty percent now receive about five million dollars instead of twenty million. The liquidation preference structure has effectively transferred thirty million dollars from the founders and common stockholders to the Series B investors despite everyone participating in the same exit event.

Reading the Tea Leaves in Term Sheets

For angels investing in healthcare companies, understanding how to evaluate and negotiate liquidation preference terms requires fluency in both the legal language and the mathematical implications. The term sheet for a preferred equity financing will specify several key parameters that determine the waterfall mechanics: the liquidation preference multiple, the participation rights, any caps on participation, the seniority of the preference relative to other classes of stock, and the definition of liquidation events that trigger the preference.

The liquidation preference multiple is usually expressed as a number followed by “x” such as “one x” or “two x” and represents how many times the original investment amount the preferred stockholders receive before any proceeds are distributed to common. A one times preference is generally considered founder-friendly and is the market standard for institutional Series A and B rounds from reputable venture capitalists. Multiples greater than one times should raise immediate questions about why the investors believe they need additional downside protection beyond the one times return of capital, and what other terms they might be willing to negotiate in exchange for reducing the multiple.

The participation language will typically describe the preferred as either “participating” or “non-participating” and may include details about caps. Fully participating preferred with no cap is the most investor-favorable structure and should be relatively rare in competitive seed and Series A processes. Non-participating preferred is the most founder-friendly structure and aligns incentives between preferred and common stockholders above a certain exit threshold. Participating preferred with a two or three times cap represents a middle ground that provides investors with some additional upside capture while limiting the total disproportionate distribution. Angels should generally push for non-participating preferred in seed and Series A deals unless there are unusual risk factors that justify additional investor protection, and should carefully model the cap thresholds with participating structures are unavoidable.

The seniority provisions determine whether the preference stack pays out in reverse chronological order, which is the standard structure, or whether certain classes of preferred stock have senior or junior status relative to others. *Pari passu* provisions mean multiple classes participate equally in the preference up to their respective multiples before moving to the next tier of the waterfall. Some term sheets include language about carve-outs for management or option holders that allow a certain percentage of proceeds to be distributed to common before the preferences are fully satisfied, which can be valuable for incentivizing key employees but dilutes the preference value for investors.

The definition of liquidation events determines when the preference gets triggered. Most healthcare deals define liquidation broadly to include any sale of the company, any sale of substantially all assets, any merger where existing stockholders end up owning less than fifty percent of the surviving entity, and sometimes any deemed liquidation event such as an initial public offering below a certain valuation threshold. These definitions matter because they determine whether founders and early stockholders can access liquidity through secondary transactions, dividend distributions, or other creative structures without triggering the preference mechanics.

The Math That Matters

For angels evaluating potential healthcare investments, the liquidation preference analysis should be integrated into the initial underwriting model alongside the traditional exit multiple and ownership percentage calculations. A comprehensive approach requires modeling multiple scenarios across a range of exit values and understanding how the preference terms affect the distribution in each case. Most angels focus exclusively on their percentage ownership and the headline valuation in healthcare deals where exit values often come in below the final round post-money valuation, the preference terms can matter as much or more than the ownership percentage.

The simplest framework for analyzing liquidation preferences starts with calculating the preference overhang, which is the total liquidation preference across all classes of preferred stock divided by the current post-money valuation. A preference overhang below fifty percent suggests that the company would need to exit at roughly twice the current valuation for common stockholders to receive meaningful proceeds. An overhang between fifty and one hundred percent indicates that common stock is essentially underwater at the current valuation, and only exits well above the current valuation will create value for founders and employees. An overhang above one hundred percent means the company has raised more money in liquidation preferences than its current valuation, which is a clear signal that the cap table needs restructuring before additional capital can be raised.

The next step is to model the break-even exit value for common stockholders, which is the exit value at which common stock begins to receive distributions after all preference amounts have been satisfied. For a company with non-participating preferences, this is simply the total preference amount across all rounds. For participating preferences, the calculation is more complex because you need to account for the fact that preferred stockholders participate in the remaining proceeds after receiving their preferences, which pushes the break-even point higher. In a company where participating preferred investors own forty percent of the company and have a fifty million dollar total preference, the break-even for common is not fifty million but rather approximately eighty three million because at fifty million the participating preferred takes their fifty million preference plus forty percent of the remaining proceeds, and you need to solve for the exit value where common ownership percentage times the exit value minus the preference equals zero.

The third component is to calculate the effective ownership percentages at different exit values, which adjusts the nominal ownership percentage to reflect the actual distribution of proceeds after accounting for preferences. In the previous behavioral health example, the founders nominally owned twenty percent of the company but effectively received only twenty six percent of proceeds at a one hundred million exit after accounting for the one point five times participating Series B preference. The

effective ownership approach provides a much more accurate picture of the risk-return profile than simply looking at cap table percentages.

Angels should also model the preference impact on internal rate of return rather than just absolute multiples. A three times gross return on a six-year healthcare investment represents a twenty percent IRR, which is respectable but not exceptional for early stage venture. However, if liquidation preferences reduce that three times gross multiple to a two times net multiple after accounting for dilution and preference distributions, the IRR drops to approximately twelve percent, which falls below target returns for most angel investors. The preference terms effectively tax the returns to common stockholders, and this tax is highest in the middle range of exit outcomes between one and five times the post-money valuation where most healthcare exits actually occur.

Conclusion

Liquidation preferences represent one of the central tensions in venture capital between the need for investor downside protection and the desire to maintain alignment between all stakeholders around value creation. In healthcare angel investments, where regulatory complexity, long sales cycles, and concentrated buyout markets create unique exit dynamics, these provisions take on outsized importance because they often determine whether seed and early-stage investors achieve venture style returns or merely recoup their capital with modest gains.

The practical implications for angels are straightforward but require discipline to implement. First, model the liquidation preference waterfall as part of initial due diligence and update those models with each subsequent financing round, paying particular attention to how the preference stack grows relative to realistic exit valuations in the company's category. Second, negotiate for non-participating preferences over participating preferences with low caps in seed and Series A deals, and be willing to accept lower valuations in exchange for more favorable preference terms when the math suggests the trade-off improves expected returns. Third, pay careful attention to how later-stage investors structure their preference terms and push back aggressively

on structures like two times participating preferred that fundamentally misalign incentives and transfer value from common stockholders to late-stage investors.

Fourth, consider the preference overhang as a leading indicator of cap table health and be prepared to walk away from follow-on investments when the overhang exceeds one hundred percent unless there is a clear path to an exit well above the current valuation. Fifth, maintain direct communication with founders about cap table dynamics and help them understand how preference terms will affect their own outcomes, particularly in the middle range of exit values where preferences have the largest impact.

The healthcare technology sector is at an inflection point where the early optimism about digital health and the massive capital inflows of 2020 and 2021 are giving way to a more mature market focused on sustainable business models and realistic paths to profitability. In this environment, the details of capital structure and the mechanics of exit distributions matter more than ever. Angels who develop sophisticated models for analyzing liquidation preferences and who discipline themselves to walk away from deals with unfavorable terms will generate meaningfully better returns than those who focus exclusively on growth metrics and nominal valuations.

The dinner party at the beginning of this essay represents a failure of financial engineering, where the tools designed to protect investors from downside risk ended up creating misaligned incentives and distributing proceeds in ways that bore no relationship to value creation. But it also represents an opportunity for angels with the math, understand the healthcare market dynamics, and structure their investments with clear-eyed realism about how exits actually happen in this sector. The waterfall analysis is not glamorous and the cap table modeling is tedious, but the difference between a three times return and a one point five times return over a year hold period is the difference between venture-scale performance and mediocre. In healthcare angel investing, getting the preference terms right is not a detail but a fundamental determinant of whether the investment generates returns that justify the risk.

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