How and Why Pre-Commercial Biotech CEO Pay is Different

Part One: Tailoring Pay to the Business

The Say-on-Pay ("SOP") era has fostered remarkable homogenization in executive compensation program design. The two primary contributing factors are:

1. Expanded compensation disclosure requirements for publicly traded companies, increasing the transparency of competitors' programs.
2. The heightened influence of proxy advisory firms ("PAF's") such as ISS and Glass Lewis with respect to SOP votes; the voting guidelines of both firms are regularly disseminated and discussed in Compensation Committee meetings.

Consequent to the above, it is easier than ever to ascertain what constitutes an outlier program, and there can be real consequences when an outlier program design is coupled with a perceived pay-for-performance ("PFP") misalignment:

- In situations where an outlier design appears to be *overpaying*, PAF's are likely to recommend "against" SOP votes, placing companies in a penalty box where scrutiny of pay programs going forward is heightened and Committee members may be at risk of withhold votes.
- If the outlier design appears to be *underpaying*, bear in mind that executives have a better sense than past generations of what is typical (due to greater transparency of compensation programs). Such a misalignment may not immediately lead to challenges attracting and retaining talent, but it does create an untenable situation. It is no small thing to ask an executive for complete dedication when they know their pay model is not competitive.

With this as context, companies and sectors that appear to go against the grain in their pay program design merit attention. Pre-commercial biotechnology companies are an excellent example. There are lessons to be learned with respect to how this sector has implemented pay practices that differ from the broader market and the preferred model of PAF's.

In this four-part series, we examine the current state of pre-commercial biotech CEO pay, how it is tailored to the sector, and what drives differences between companies. We will explore:

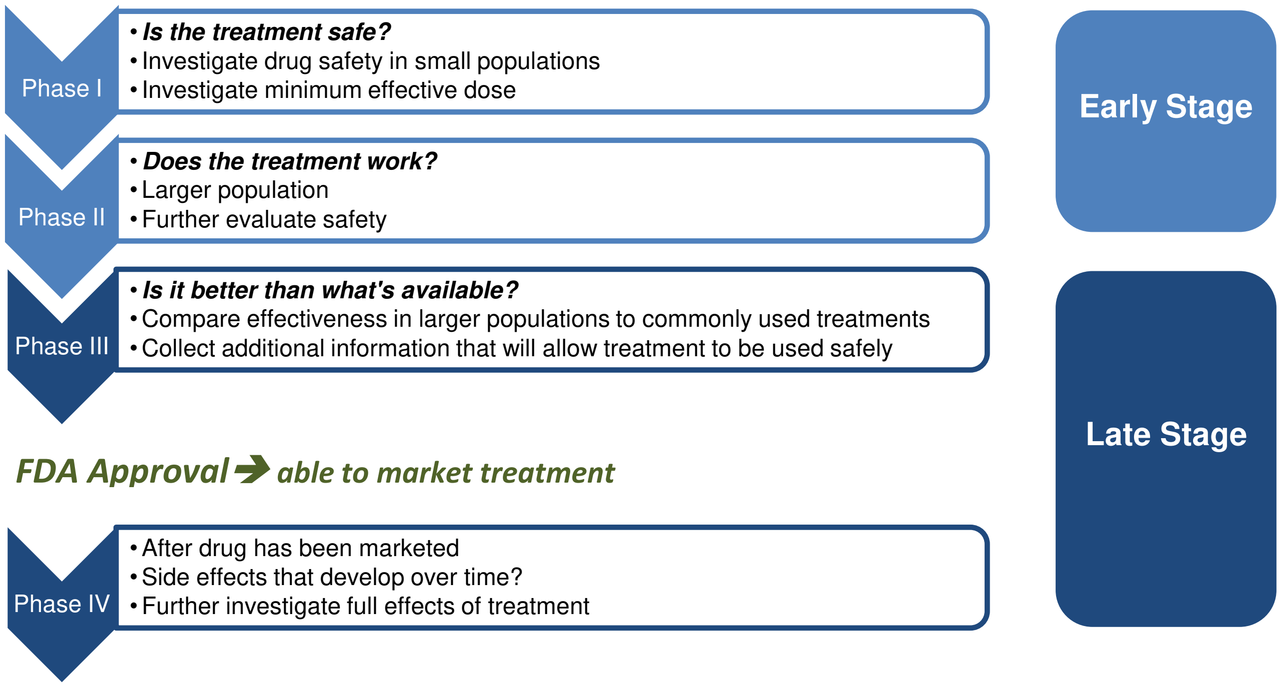
Part One:	***Tailoring Pay to the Business***
Part Two:	***Founders vs. Non-Founders***
Part Three:	***East Coast vs. West Coast***
Part Four:	***Drivers of SOP Results***

The Business Model Informs CEO Pay Program Design

In simple terms, biotech companies progress through three stages:

1. **Drug Discovery**
2. **Clinical Trials** focused on gaining Federal Drug Administration ("FDA") approval
3. Bringing FDA-approved treatments to market through **Commercialization**

Clinical trials proceed in a series of steps, or phases:



Treatments are typically in Phase I-III for a matter of years or even decades, and companies encounter a high degree of uncertainty with respect to whether a treatment will or will not advance to the next Phase. During this period, pre-commercial companies will most often rely on external financing to generate cash and fund what may be extremely expensive undertakings.

Investors closely monitor pipeline progress and company market value will quickly rise and fall depending on clinical trial success or failure. Valuation of a single treatment may triple upon progress to Phase 2, and triple again upon progress to Phase 3.

Consequently, the sector is characterized by:

- Very long investment horizon between drug discovery and potential commercialization;
- A great deal of uncertainty relating to likelihood and timing of progress through clinical trials;
- Need for significant cash generation from external financing until commercialization;
- Concentration of talent in hot spots in urban areas near feeder universities, research hospitals and venture capital, driving high cost-of-labor;
- Investor focus on pipeline progress more than income statement performance, and
- Volatile stock prices.

CEO Pay Program Design: Key Takeaways

Our research determined that pre-commercial biotech companies vary from broader market (e.g., Russell 3000) and PAF preferred practices as follows:

Item	Broader Market Practice	Pre-Commercial Biotech Practice	PAF Perspective
Target Cash Opportunities	• Typically correlated with revenue within a set industry	• Remarkably consistent across companies • Modest relative to company valuation	• Not an area of intense focus
STI / Bonus Design	• Multiple financial performance metrics • Formulaic plans	• Scorecards emphasizing progress against discovery and pipeline development milestones • Cash management and financing activities receive lower weightings • Payouts discretionary	• Strong preference for formulaic plans • Skeptical of discretionary payouts
LTI Design	• Portfolio of instruments • At least 50% weighting to performance shares with three-year performance period • Time-based RSUs more common than stock options • Reference target grant date fair value of awards for benchmarking purposes	• Stock options dominate (90% of mix) • Time-based RSUs rare for NEOs • Very rare to use performance measures • Reference target percentage of common shares outstanding for benchmarking purposes	• Strong preference for at least 50% weighting to performance-based vehicles • Do not consider stock options to be performance-based • Valuation protocols akin to grant date fair value, but often punitive to stock options (e.g., use full term for valuation purposes)
Aggregate Equity Spend	• Varies by industry and stage, but annual spend of 1% – 2% 2% of common shares outstanding is common • Overhang is relatively modest (full value awards vest & convert to common shares quickly, and may have 2-4 years of shares reserved for future grant) • Regularly request shareholders approve equity pool refreshes every 2-4 years	• Trend towards 5% for burn rate • Overhangs north of 20% common, including high levels of dilution associated with unexercised stock options that remain outstanding much longer than full value awards • Common to have evergreen provisions in equity plans to provide for additional shares without shareholder approval	• Burn rate caps specific to company size & sector • Strongly oppose evergreen provisions • Consider overhang when assessing vote recommendations for equity plan refresh requests
SOP Support	• Average 91% support for Russell 3000 in 2020 • ISS recommends “AGAINST” 11% of companies • ISS “AGAINST” recommendation has average negative impact of 28 points	• Average 96% support • ISS recommends “AGAINST” 11% of companies • ISS “AGAINST” recommendation has modest average negative impact of 10 points	• Will closely scrutinize companies with relatively modest SOP results in prior year and/or companies who received AGAINST recommendations in prior year

Once biotech companies transition to commercialization, the investor focus increasingly shifts to financial results, incentive plans follow suit and there is a clear evolution in pay practices to more closely approximate the pay model in other industries.

Overarching takeaway: pay program development for these companies is clearly tailored to the sector-specific business environment and aligns with sector-specific performance objectives.

Developing a Roster of Pre-Commercial Biotech Benchmark Companies

In order to investigate CEO pay practices, we isolated publicly-traded biotech sector companies that:

- Were NYSE or Nasdaq listed;
- Were pre-commercial;
- Had annual meetings that included a SOP vote in the 12 month period ending June 1, 2020; and
- Had no CEO turnover in this period.

Ultimately, we identified 18 companies (listed in the Appendix) with key statistics including:

Summary Statistics	All Statistics as of Fiscal-Year End for Year CEO Compensation Reported				
	Market Cap (millions)	Employees	Revenue (millions)	Operating Expense (millions)	Cash & Short-Term Investments (millions)
25th Percentile	$313	86	$2	$69	$68
Median	**$397**	**118**	**$10**	**$88**	**$162**
Average	***$951***	***144***	***$17***	***$108***	***$199***
75th Percentile	$1,496	203	$29	$143	$336

In the remainder of this report, we provide further detail relating to general pay practices, bonus/short-term incentive and long-term incentive design for CEOs, aggregate equity usage statistics and SOP support for the benchmark companies.

CEO General Pay Practices

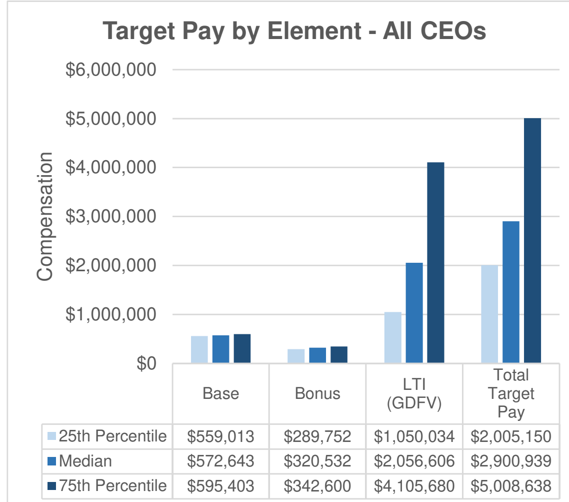
Total Target Pay Opportunity

Key Takeaways

- Remarkably consistent salaries and target total cash (base salary plus target bonus)
- Significant spread on LTI Grant Date Fair Value (GDFV) with 75th percentile approximately 2.5x the 25th percentile

Looking Forward

- On a company-by-company basis, year-to-year pay opportunities may swing significantly as share prices move (sector has significant stock price volatility, and company LTI awards are relatively stable on a "percent of common shares outstanding" basis)



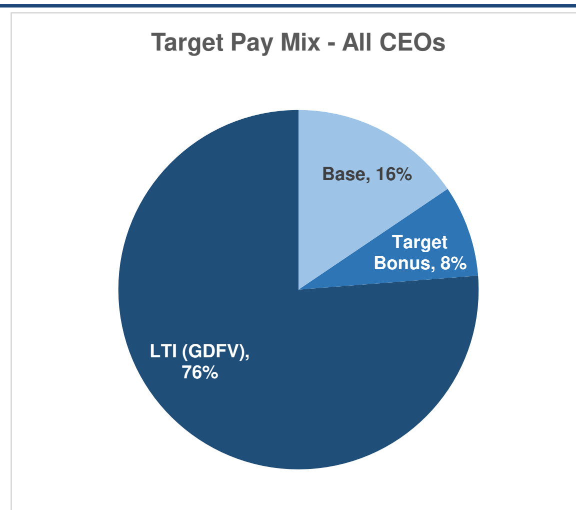
Pay Mix

Key Takeaways

- Target bonus trends towards 55% of salary
- Strong emphasis on LTI

Looking Forward

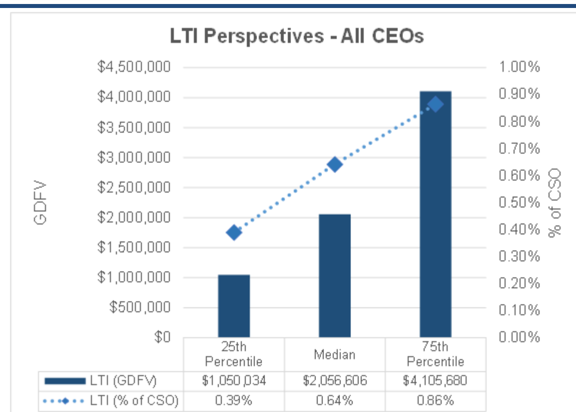
- Equity-dominated programs are in line with investor tolerance for risk and focus on cash management
- Absent fundamental shift in regulatory environment (which would impact potential value of drugs in clinical trials), we do not anticipate any change to the fundamental pay mix dynamic



Setting LTI Amounts

Key Takeaways

- Our experience is that most companies of this sector and stage will reference a percentage of Common Shares Outstanding ("CSO") benchmark rather than targeting a grant date fair value amount when setting pay for executives
- Very wide spread from 25th to 75th percentiles (reflects presence of founders and spread of market caps)
- The % of CSO approach is generally a more stable benchmark and accommodates the significant stock price volatility in the sector



Looking Forward

- While this dynamic is unlikely to change for companies in pre-commercial stages, it is important to note that post-commercialization, it is common to shift towards greater consideration of the grant date fair value approach
- This shift is often contemporary with greater representation of institutional investors who reference PAF protocols when assessing PFP alignment and are less tolerant of relatively high dilution associated with "all option" grants

MERIDIAN

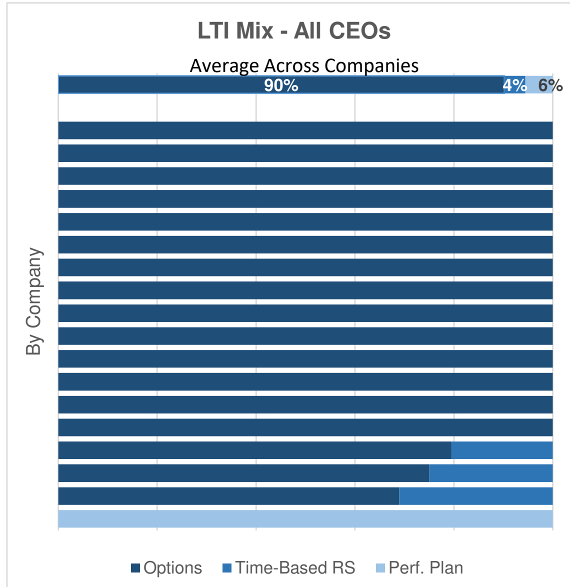
CEO Short-Term Incentive / Bonus Design

Plan Type	**Key Takeaways** • Running counter to established practices in the vast majority of sectors, common to have non-formulaic programs • Less than 40% of the sample had formulaic plans (i.e., where payout is predicated upon achievement against pre-established performance goals)—and most of these companies still placed the greatest emphasis on progress against pipeline development milestones • The majority of companies have discretionary programs, where ultimate payout is informed by a consideration of progress relative to a "scorecard" of different performance categories and possibly milestones—but there is no range of goals within those categories that formulaically determine payout **Looking Forward** • The overall dynamic—favoring discretionary programs and preserving a certain "fluidity" in the program to accommodate shifting regulatory and competitive landscape—is not likely to change • May see a greater level of detail included in pay disclosures to describe the "how and why" of bonus determinations (e.g., specific accomplishments within performance categories, and why the Committee did or did not view these accomplishments as in line with reasonable expectations or ultimately contributing to the Company's future success) • May see a subtle shift to greater consideration of items that speak to sustainability (resiliency of operations, evidence of judicious cash management) in light of how pandemic-related disruptions have impacted companies in other sectors
Funding of Awards	**Key Takeaways** • Key difference vs. broader industry practice is that, in general, bonuses are not funded based on financial performance • More than 60% of companies do not disclose "caps" on bonus amounts • Among those who do have caps, 200% of target is the most common approach **Looking Forward** • While this dynamic is unlikely to change for companies in pre-commercial stages, it is important to note that post-commercialization (once companies have revenue streams from marketed treatments) it is common to shift towards financial measure-driven funding of programs, similar to other industries
Performance Measures	**Key Takeaways** • Among companies disclosing goals, it is universal practice to consider drug discovery milestones, and a majority practice to consider clinical trial progress • A majority (58%) of companies also indicated they considered cash management and/or financing activity in bonus determination—but this performance category received less emphasis than the product and pipeline development goals • Roughly one out of four companies disclosed consideration of "culture" and/or "human capital management" goals—this is not surprising in light of a limited talent pool and a strong desire by management teams to differentiate themselves from talent competitors **Looking Forward** • We anticipate that culture and human capital management-related measures will receive increased focus in future years (reflecting both investor interest in evidence of diversity & inclusion and increasing candidate interest in how potential employers articulate what is distinct about their culture) • Larger, post-commercial companies have clearly embraced progress against environmental, social and governance ("ESG") standards as a strategic priority, and have begun to incorporate these factors into bonus plans (with typically very modest weighting); lessons learned may trickle down to pre-commercial companies • May also see a subtle shift to greater focus on cash management in future years

CEO Long-Term Incentive Design

Grant Types

Key Takeaways



- Stock options are by far the most popular vehicle
- Only three companies use time-based RSUs—and at these companies the RSUs represent a small percentage of a portfolio that places much greater emphasis on stock options
- Only one company used performance shares—and in fact used performance shares as its sole instrument

Looking Forward

- Option-dominated programs provide exquisite alignment with the typical small-cap biotech investor profile (embrace risk, focused on upside potential rather than downside protection), and are likely to remain the most common approach
- While this dynamic is unlikely to change for companies in pre-commercial stages, it is important to note that post-commercialization (when the investor base often shifts towards institutions not primarily focused on biotech), it is common to shift towards a combination of time-based RSUs (manage dilution, provide retention in down markets) and performance shares (align pay with execution against specific performance targets, which are more predictable and easier to embed in performance plans once shareholder value reflects income statement performance *and* pipeline progress)

Vesting & Performance Metrics

Key Takeaways

- Typically a 25% cliff vest after one year of service, followed by monthly pro-rata vesting over the following three years
- In those rare cases where performance criteria are considered, we have observed (beyond this roster of benchmark companies) that there are often two-to-four measurement categories, weighted to represent 100% of the award (no additional shares earned for “above target” performance). Common performance categories generally overlap the bonus plan (i.e., drug discovery and/or clinical trial progress milestones, cash management and/or financing milestones)

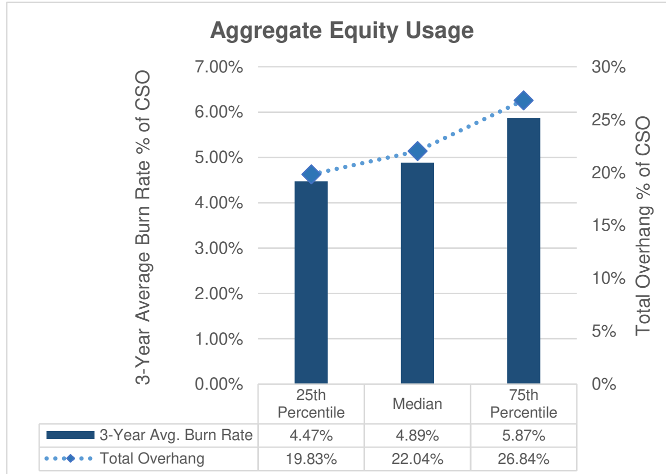
Looking Forward

- This model has served the sector well and is generally looked at favorably by sector-specific investors; we would not anticipate significant change

Aggregate Equity Usage

Burn Rate and Total Overhang

Key Takeaways



- Industry exhibits Burn Rates (shares granted as a percentage of common shares outstanding) well in excess of most other sectors
- Total Overhang (shares granted & outstanding plus shares reserved for future grant) are also well in excess of other sectors; contributing factors are:
  - Option-dominated equity programs, where shares remain granted and outstanding longer than the typical 3-to-4 year vest for RSUs
  - The popularity of evergreen programs within the sector, which typically allow for automatic refreshment of the equity pool by 4% (or a lower number approved by the Committee)

Looking Forward

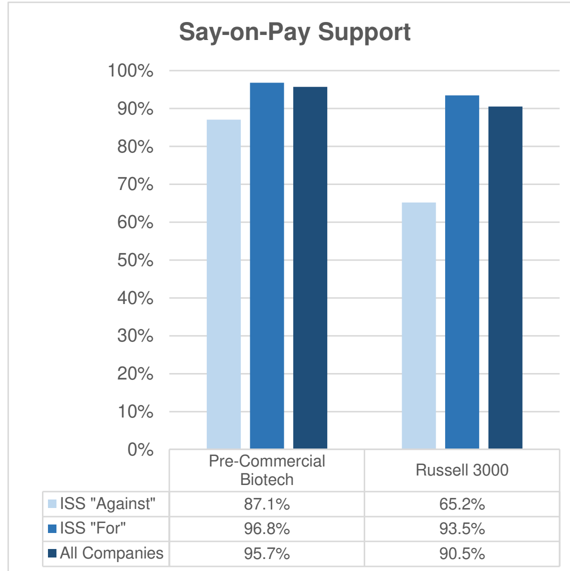
- We do not anticipate any significant change in this general dynamic absent a fundamental shift in the regulatory environment (which may drive down share prices and lead to retention challenges absent a round of new awards)
- Companies may experience a one- or two-year spike in burn rate as they evolve towards commercialization relating to increased new hire activity (building a sales force)

Say on Pay Support

Overall Support Levels

Key Takeaways

- Higher support as compared to the Russell 3000
- ISS had identical “Against” recommendation rates for this pre-commercial biotech sample and the broader Russell 3000: 11%
- “Against” recommendations had very modest impact for these companies, with average support dropping only 9.7% (vs. a 28.3% drop for the broader Russell 3000) as compared to when ISS recommends “For”
- The muted impact of “Against” recommendations reflects factors including sector-specific investors who are not swayed by the ISS perspective and the significant ownership by founders and other insiders at many companies



Looking Forward

- There is clear dichotomy between sector-specific pay practices (which sector-specific investors have generally supported) and pay practices preferred by the PAFs
- In general, SOP support tends to drop following years of market underperformance (TSR below the broader market)
- While sector-specific investors are not swayed by vote recommendations from PAF’s to the same extent as the broader market, it is still critical that companies engage with their investors to articulate how the pay program is tailored to company-specific challenges, holds management accountable for performance, and ultimately drives alignment with shareholder value
- Absent this type of engagement, SOP is much more likely to dip in years of market underperformance

Appendix: Companies Included in Study

ADMA Biologics, Inc.

Adverum Biotechnologies, Inc.

Albireo Pharma, Inc.

AnaptysBio, Inc.

Ardelyx, Inc.

Cellular Biomedicine Group, Inc.

CEL-SCI Corporation

Concert Pharmaceuticals, Inc.

Corbus Pharmaceuticals Holdings, Inc.

Denali Therapeutics Inc.

Dicerna Pharmaceuticals, Inc.

Editas Medicine, Inc.

Fate Therapeutics, Inc.

GlycoMimetics, Inc.

Mirati Therapeutics, Inc.

Pfenex Inc.

Pieris Pharmaceuticals, Inc.

REGENXBIO Inc.