US Biopharmaceuticals

4Q23 Earnings Quotes – Week 4

Earnings Review

With the first three weeks of 4Q23 earnings season behind us, we have compiled what we'd highlight as the most important thematic quotes from earnings calls across the Biopharma space. Areas that particularly stood out which have industry relevance, include **1)** 2024 outlook, **2)** new launches / pipeline development, and 3) M&A / Business Development.

2024+ outlook

BIIB on 2024+ outlook: *"As has been the case in previous years, we expect Q1 to be seasonally weaker quarter as compared to Q4 for our MS business in the US, and that's driven by higher discounts and allowances and some channel dynamics. We also expect contract manufacturing revenue to be significantly lower throughout 2024 as compared to 2023. This is in part due to completing certain batch commitments in 2023 these batch commitments contributed roughly $320 million in 2023, which will not recur in 2024.The increase in revenue from new product launches and decrease in contract manufacturing revenue, along with lower idle capacity charges, are expected to have a favorable impact on cost of sales as a percentage of revenue for 2024. We also believe we can grow our operating income at a low double-digit percentage and operating margins by a mid-single digit percentage as compared to 2023. We expect this to be driven by improved cost of sales as a percentage of revenue as well as lower expected operating expenses."*

RPRX on 2024+ outlook: *"Lastly, we're reflecting the strong momentum in our business and our 2024 full year guidance. We expect portfolio receipts to be between $2.6 billion and $2.7 billion, based on expected underlying growth from our portfolio of between 5% and 9%. Consistent with our standard practice, our guidance is based on our current portfolio and does not include the benefit of any future transaction."*

New launches

BIIB on new launches: *"And there's an awful lot of coordination that is needed. And even the role of the NAS is quite complex because...you have to help them to understand the reimbursement, not just for LEQEMBI, but there is the reimbursement for the PET scans, the MRIs, and for the care... We were sure that we knew exactly how the role of the NAS was going to work in relation to the other accompanying roles that are out there in the field. And we also needed to get a certain number of core IDNs ready and signed up because there's not a lot of point in increasing the number of people out in the field unless you've got enough sites that are activated and ready. So now we're more than six months into the launch. I think we feel very comfortable about how the role of the NAS works."*

M&A / Capital Allocation

RPRX on M&A: *"As it relates to the second question around $4 billion, is that the new norm? We're not changing our capital deployment guidance that we gave last year at our Analyst Day meeting of $10 billion to $12 billion over five years. I think what it does highlight is there's a strong momentum. You can absolutely see it in our funnel and obviously the deals we've announced."*

See pages 2-14 of this note for additional key thematic quotes from 4Q23 calls

Refer to important disclosures on page 21 to 23. Analyst Certification on page 19. Price Objective Basis/Risk on page 16. **12660734**

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Abbreviations:
IRA: inflation reduction act
BD: business development
M&A: mergers and acquisitions
EGFR: estimated glomerular filtration rate
ESMO: European Society for Medical Oncology
FDA: Food and Drug Administration
CD19: Protein
MS: Multiple Sclerosis
PBM: Pharmacy Benefit Manager
CAR-T: Cell oncology technology
BCMA: B-cell maturation antigen

Key Quotes from 4Q23 Earnings Calls

2024+ Outlook

JNJ on 2024+ Outlook: *"As we look ahead, I have never been more excited about the future of our business. At our enterprise business review, we share that we expect our Innovative Medicine business to grow 5% to 7% from 2025 to 2030, with our industry-leading pipeline and portfolio delivering more than 10 assets that have the potential to generate over $5 billion in peak year sales by 2030. We also expect a further 15 assets to have the potential for $1 billion to $5 billion in peak year sales."*

"Turning to other items on our P&L. We expect our 2024 adjusted pre-tax operating margin to improve by approximately 50 basis points, driven primarily by a continuation of efficiency programs across the organization. We expect this to be partially offset by anticipated STELARA biosimilar entrance in Europe in the second half of this year and some lingering inflation impact in MedTech inventory that will flow through 2024's P&L. This margin improvement encompasses dilution of additional investment associated with our planned acquisition of Ambrx, which will be treated as a business combination. Now we do acknowledge that this 50 basis point improvement simply gets us back to what your models expected given the elevated Q4 2023 R&D investment for new pipeline assets. Regarding other income and expense, we anticipate income to be $1.2 billion to $1.4 billion for 2024. This is less than the 2023 amount driven by the impact of actuarial assumptions on certain employee benefit programs, such as lower discount rates."

"We are comfortable with you modeling net interest income between $450 million and $550 million, consistent with 2023 levels. Finally, we are projecting an effective tax rate for 2024 in the range of 16% to 17%, based on current tax laws and anticipated geographic income mix across our businesses. This tax rate takes into account an increase of approximately 1.5% or 150 basis points relative to the recently enacted Pillar 2 legislation."

"Given all these factors, we expect adjusted operational earnings per share to grow 7.4% at the midpoint for a range of $10.55 to $10.75. Based on the euro spot rate of 1.09 from last week, we do not estimate any currency impact on earnings per share. I'll now provide some qualitative considerations on quarterly phasing for your models. We expect Innovative Medicine sales growth to be slightly stronger in the first half of the year compared to the second half given the anticipated entry of STELARA biosimilars in Europe towards the middle of the year. This headwind will be partially offset by continued uptake from our recently launched products. We project MedTech operational sales growth to be relatively consistent throughout the year, expecting procedures in 2024 to remain above pre-COVID levels. The first half of the year will continue to have modest impact from Russia sanctions as our licenses are approved. We anticipate China VBP pricing for surgical IOLs and orthopedic sports to begin in 2024, with impacts from 2023 VBP in electrophysiology, endocutters, energy, spine and trauma to begin to anniversary throughout 2024."

PFE on 2024+ Outlook: "Upon achieving our de-levering goals, we anticipate returning to a more balanced capital allocation strategy, inclusive of share repurchases. Now given that we issued our full year 2024 revenue and adjusted diluted earnings per share guidance on December 13th, let me just hit a few of the highlights. We expect total Company full year 2024 revenues to be in the range of $58.5 billion to $61.5 billion, which reflects our expectation of strong contributions across our product portfolio. Importantly, excluding Comirnaty and Paxlovid, we anticipate operational revenue growth of 8% to 10%. We remain confident on delivering at least $4 billion of net savings from our cost-realignment program by the end of this year. We believe right-sizing the cost base will put us on a strong footing towards margin expansion and increased operational efficiency moving forward. With it, we expect adjusted diluted earnings per share to be in the range of $2.05 to $2.25 a share for the full year of 2024. And as a reminder, this range is inclusive of an anticipated $0.40 of earnings dilution from the Seagen

acquisition, and again, with the vast majority of this dilution resulting from the financing costs associated with the deal."

"Our guidance for gross margin, although we don't provide it specifically, we give you some color around the fact that it's approximately 70%. Obviously, our focus going forward is to improve our margin rate and more importantly, improve our operating margin rate to the bottom-line. As we look here at 2024, there is a few things that have compressed our margin rate versus -- as COVID has declined year-over-year, that has served to, I'll say de-lever if you will, the P&L as COVID takes up and covers some fixed overhead. But importantly, what's happening is we are in-sourcing products that we've recently acquired. Those -- that in-sourcing requires time before we get up to peak yield and performance. So, that in the short-term dampens gross margin rate, but has a trajectory to improve gross margin rate over time. And then secondly, we have new launches that are coming online late in Q3 -- or late in the second half of 2023 and moving into '24, again those are not at peak performance yet, that will ultimately improve gross gross margin rate as we cycle into later years. And then finally, I will say that, over the last several years, we have absorbed some amount of inflation within our cost of goods sold. That is an area of opportunity for us as we think about improving performance longer-term. So, I hope that gives you some color."

"R&D came in a little favorable than our expectations previously. A part of this is the fact that we are very focused on realigning our cost base, so consistent with the program. And then secondly, there probably is some timing that's dampening R&D in the fourth quarter that will slide into 2024 and into 2025. So, there is some timing implications to that performance level. But I think importantly, back to my prepared remarks, is, our focus is on delivering net savings of $4 billion and if you look through the end of 2023, about half of that, we have achieved already. We're now focused on achieving the additional $2 billion or so as we cycle into 2024, and all eyes are on that objective."

ABBV on 2024+ Outlook: *"We anticipate updates this year from several important R&D programs including. Approvals for Skyrizi in UC, 951 in the US and potentially accelerated approval for DLBCL in third-line plus follicular lymphoma. We also anticipate regulatory submissions for, our novel short-acting toxin and potentially Teliso-V in advanced non-squamous, non-small cell lung cancer. And third, we are focused on closing and integrating ImmunoGen answerable, these two exciting opportunities represent substantial sources of revenue growth well into the next decade. We remain on-track with the anticipated closing of both deals in the middle of the year. Today, we are also reaffirming our long-term sales outlook, which includes a return to robust revenue growth in 2025 with a high-single-digit CAGR through the end-of-the decade. Included in this outlook is an updated forecast for Skyrizi and Rinvoq. Based on the impressive growth of both therapies, which we expect will collectively generate approximately $16 billion of revenue in 2024, we now anticipate Skyrizi and Rinvoq will collectively exceed more than $27 billion in sales by 2027, with robust growth continuing into the next decade. This updated forecast reflects an increase of more than $6 billion in revenue, compared to our prior 2027 guidance. We expect global sales for Skyrizi, to reach more than $17 billion in 2027, reflecting continued share capture in psoriasis, where we are the clear market-leader, as well as strong uptake in IBD. And we expect Rinvoq to achieve more than $10 billion of global sales in 2027, reflecting continued market growth and share momentum across each of Rinvoq approved indications including four in rheumatology, two in IBD and eight atopic dermatitis. This forecast comprehends modest contributions from several new disease areas for Rinvoq, which we anticipate will be launching in the second-half of the decade."*

BMY on 2024+ Outlook: *"We expect 2024 revenues to increase in a low single-digit range, reflecting our confidence in the growing momentum of our growth portfolio. Excluding Foreign Exchange, we expect revenues to increase in the low single-digit as well. Driving our momentum this year will be increasing the sales in our growth portfolio from products like Opdivo and our recently launched products. As we said previously, we expect a*

more modest pace of growth than last year for Opdivo, with the potential for acceleration in the back half of the year from new indications. And while our legacy portfolio includes assets that are maturing, we expect strong growth from Eliquis in the US this year."

MRK on 2024+ Outlook: "So, as you all know, our company has made great progress in expanding operating margin over a number of years. As we look to 2024, we expect operating margin to improve. And that's really driven by the strength of the topline and mix of revenue by the roll-off of royalties that we've noted in KEYTRUDA and GARDASIL being disciplined in our expenses, while we do invest fully behind our expansive pipeline. As we go beyond 2024, we still point to an operating margin of greater than 40% in 2025, but our focus as a company and as the team is to really ensure that we are fueling the pipeline supporting the portfolio of products that we're launching to drive growth into the long-term."

"We expect another year of strong growth, driven by key marketed products and we'll begin to benefit from the anticipated launches of impactful new products [ph], such as Sotatercept and V116, we project revenue to be between $62.7 billion and $64.2 billion, representing growth of 4% to 7%. This growth includes a negative impact from foreign-exchange of approximately 2% using mid January rates. The headwind is primarily due to the devaluation of the Argentine peso, which we expect will largely be offset by inflation related price increases consistent with market practice. Our gross margin assumption is approximately 80.5%, which includes the benefit from reduced royalties paid on KEYTRUDA and GARDASIL. Operating expenses are assumed to be between $25.1 billion and $26.1 billion, which includes an approximate $650 million one time charge related to the announced acquisition of Harpoon Therapeutics. As a reminder, our guidance does not assume additional significant potential business development transactions. Other expense is expected to be approximately $200 million. We assume a full-year tax-rate between 14.5% and 15.5%. We assume approximately 2.54 billion shares outstanding. Taken together, we expect EPS of $8.44 to $8.59. This range includes an approximate $0.26 per share charge related to the planned acquisition of Harpoon Therapeutics, which is not tax-deductible and the negative impact from foreign-exchange of approximately $0.25 using mid-January rates, including the impact from Argentina."

VRTX on 2024 outlook *"Now switching to guidance. For 2024, we expect total product revenue in a range of 10.55% to $10.75 billion, representing revenue growth of 8% at the midpoint at current exchange rates. Included in this outlook is our expectation for continued growth in CF as we continue to reach more patients including younger ones in core markets and select other countries. Guidance also includes contribution from the commercial launch of CASGEVY in approved indications and geographies. We continue to expect a foundational year for CASGEVY in 2024, as we ramp up patient initiations and build toward a multi-billion dollar market opportunity overtime.*

We are providing total product revenue guidance rather than specifics by disease area or product given the inherent uncertainty of new launches as well as the significant disparity in size of our established CF business relative to other revenues. As a reminder, on the accounting for CASGEVY and the CRISPR profit share arrangement, Vertex will book 100% of revenues for CASGEVY. The profit share with CRISPR calculated after product and commercial costs will be recorded in cost of goods sold. Any ongoing research and development costs will be recorded in operating expenses net of CRISPR's share. For total Vertex operating expenses, we project $4.3 billion to $4.4 billion in full year 2024 combined non-GAAP SG&A, R&D, and acquired IPR&D. This operating expense range includes approximately $125 million in currently anticipated IPR&D charges. We continue to invest a majority of our operating expenses into R&D given the momentum in our multiple mid and late-stage clinical development programs.

Note, that the costs for multiple Phase 3 studies have been a significant driver of our growth in our total operating expenses in recent years. Given that a number of Phase 3 studies were completed as we entered 2024, we were able to fund new additional Phase 3 studies without the same rate of growth in operating expenses. While we have substantially

completed our commercial investments for CASGEVY, we are also funding the expansion of our commercial capabilities in anticipation of other multi-billion dollar opportunities represented by our programs with near-term launch potential, while continuing to leverage an attractive business model afforded by our focus in specialty markets. With a more normalized impact from U.S. R&D tax credits in 2024, our full year 2024 non-GAAP effective tax rate is expected to be in the range of 20% to 21%."

LLY on 2024 outlook: *"To summarize our initial 2024 financial guidance. Starting at the topline, revenue is expected to be between $40.4 billion and $41.6 billion. Using the midpoint of the 2024 range, this represents roughly 20% growth or 29% growth for our core business, which excludes the impact of the divestitures that took place in 2023.*

In terms of phasing of our revenue growth throughout 2024, while we don't provide quarterly guidance, we expect revenue growth to accelerate in the second half of the year, consistent with the increased availability of incretin doses.

In terms of pricing for a core business which excludes divestitures, we expect a high-single-digit percent price decline in 2024. The lingering base period impact of the Mounjaro non-covered co-pay card dynamics will dampen these price declines in the first half of 2024, with more significant price declines expected in the second half of the year.

During this year, we're taking a streamlined approach to our guidance line items relating to expenses. Rather than providing three separate guidance line items for gross margin, research and development costs, and marketing and sales administrative costs, we are presenting a single new ratio representing our margin after plant costs calculated by subtracting R&D costs and marketing, selling, and administrative costs from gross margin; and dividing that figure by revenue. We express this ratio as a percentage, and for 2024, we expect it to be in the range of 31% to 33% on a non-GAAP basis.

While we are not providing a specific guidance number for gross margin as a percent of sales, our expectations remain consistent that we will maintain gross margin of approximately 80% on a non-GAAP basis, as productivity gains and volumes are offset by pricing pressures and the cost of new manufacturing facilities.

As for our expense growth across key categories, we expect marketing, selling, and administrative expenses to again grow in 2024, though at a slower pace than revenues, with growth driven by marketing investments in our recently launched and upcoming launch products.

We also expect R&D expenses in 2024 to increase driven by growing investments across all phases of our pipeline as we invest for the future with the majority of dollar growth driven by ongoing and new late-phase opportunities. We expect R&D expense to increase at a higher rate than marketing, selling and administrative expenses.

Other income and expenses is expected to be between $400 million and $500 million of expense, primarily driven by higher interest expense.

Turning to taxes, we expect our 2024 non-GAAP effective tax rate to be approximately 14%. Note that this rate does not assume deferral or repeal of the provision in the 2017 Tax Act requiring capitalization and amortization of research and development expenses for tax purposes. Should such a change take effect, our effective tax rate for 2024 would be moderately higher.

Earnings per share is expected to be in the range of $12.20 to $12.70 on a non-GAAP basis. Consistent with our prior practice, we're not including any potential or pending acquired IPR&D and development milestone charges in our 2024 guidance, and we will provide updates each quarter on the impact of IPR&D on earnings per share if acquired IPR&D and development milestone charges are incurred. For guidance modeling purposes, we're currently estimating diluted weighted average share outstanding for 2024 to be approximately $903 million.

We entered 2024 with strong momentum and a remarkable opportunity to help millions more patients with our medicines. For our investors, 2024 should be another exciting year driven by expected revenue growth in our core business near an approaching 30% and continued investments to drive future growth. Our outlook for top-tier revenue growth and operating margin expansion remains on track."

AMGN on 2024 outlook: "*For 2024, we're expecting revenue of $32.4 billion to $33.8 billion, and non-GAAP earnings per share of $18.90 to $20.30. As we continue to integrate Horizon, we expect the acquisition to be accretive to non-GAAP EPS in 2024, and we're on track to meet the synergies target previously communicated of at least $500 million in pre-tax costs by year three after closing, or in 2026.*

Our revenue range reflects our strong growth outlook, driven by numerous opportunities across our four therapeutic area pillars. We will record a full-year of legacy Horizon product sales, and we expect continued volume-driven growth in our priority products Repatha, TEZSPIRE, EVENITY, Otezla, Prolia, and BLINCYTO, consistent with industry trends in our recent history, we expect mid-single-digit price declines for our portfolio in 2024.

As a reminder, as you model the first quarter of 2024 and consistent with our historical trends, we expect first quarter product sales to be the lowest quarter as a percentage of the full year due to benefit plan changes, insurance re-verifications, and increased copay charges. So, we expect the first quarter of 2024 total revenue to grow roughly 20% year-over-year.

For the full year, we expect other revenue to be in the range of approximately $1.3 billion to $1.4 billion. And we continue to efficiently run the business through our disciplined approach to managing operating expenses. In 2024, we're making incremental R&D investments to support our promising late-stage pipeline, including our rapidly advancing oncology programs, as discussed following ESMO in October, and other programs, including MeriTide. Furthermore, the addition of Horizon has an impact on the 2024 operating margin given the timing of when synergies are realized.

As a result, we project the full year non-GAAP operating margin as a percentage of product sales to be roughly 48%. Note that we expect non-GAAP operating margin growth to accelerate in each of the quarters following the first quarter. There are primarily three reasons for this.

First, typical lower product sales in Q1, as I mentioned, above than in each of the following quarters. Second, increased spend on our commercial brands will continue, building on the investments we made in the second half of 2023, including Repatha, Otezla, and our bone portfolio of EVENITY and Prolia.

And third, Q1 2024 reflects the addition of Horizon, for which we are just at the beginning stages of realizing synergies, given the acquisition close date of October 6. So we expect non-GAAP operating margin to be roughly 43% in the first quarter. I would reiterate that we expect operating margin growth to accelerate in each of the quarters following the first quarter. We project non-GAAP cost of sales be in the range of 17% to 18% as a percentage of product sales for the 2024 year.

Taking into account the full year of Horizon-related expenses, we expect non-GAAP R&D expenses in 2024 to increase approximately 20% year-over-year, with investments also increasing to advance key pipeline assets, including AMG 193, MeriTide, rocatinlimab, and tarlatamab. We see significant potential in our innovative pipeline, and it is important that we strategically invest now to fully unlock the opportunities ahead to create long-term value for patients, staff, and shareholders. And for non-GAAP SG&A spend, we expect 2024 full-year amounts as a percentage of product sales to be between 21% and 22%.

We anticipate non-GAAP OI&E to be in the range of $2.6 billion to $2.7 billion. As mentioned on our Q3 '23 call, the '24 guidance includes the interest expense related to the

$28 billion of debt raised for the Horizon acquisition. We expect a non-GAAP tax rate of 16% to 17%."

GILD on 2024 outlook: *"For 2024, we expect HIV sales to grow approximately 4%, reflecting annual treatment demand growth of 2% to 3%, Biktarvy market share gains, and continued double-digit growth in demand for HIV prevention. In terms of quarterly HIV revenue, keep in mind that the first quarter is always impacted by the reset of patient co-pays and deductibles. Additionally, we've historically seen inventory build-up in the fourth quarter that has led to notable drawdowns by wholesalers in the first quarter"*

"You're absolutely right, our product sales guidance for products excluding Veklury implies 4% to 6% growth year-over-year, again continuing the trend of strong growth that you've seen over the last two years. I'd also highlight that it implies a substantial moderation of our operating expense growth, which is an important piece of the puzzle that we spent a lot of time talking about.

To your question specifically on product growth, the growth drivers for 2024 are the same as the growth drivers last year. You continue to see strong growth in our HIV business. As you see in the quarter, you really need to focus on the full year for HIV to see the growth trend. And we saw another year of very strong growth across our HIV business for the full year in '23. We expect the same thing in '24. And you heard on the call that we were expecting at least 4% growth for the HIV business next year. And then, of course, the Cell Therapy business and Trodelvy are expected to continue to grow as well."

BIIB on 2024 outlook: "*So now I'm going to discuss our full-year 2024 guidance ranges and assumptions. We expect full-year 2024 non-GAAP diluted earnings per share of between $15 and $16, and that reflects expected EPS growth of approximately 5% at the midpoint of the range compared to 2023.*

While total revenue is expected to decline by a low to mid-single digit percentage, we expect our core pharmaceutical revenue or product revenue plus Biogen's 50% share of LEQEMBI revenue net of cost of sales and royalties to be relatively flat for 2024 as compared to 2023. This assumption is driven by the expected increase in revenue from new product launches over the course of the year, roughly offsetting the declines in our MS product revenue.

As has been the case in previous years, we expect Q1 to be seasonally weaker quarter as compared to Q4 for our MS business in the US, and that's driven by higher discounts and allowances and some channel dynamics. We also expect contract manufacturing revenue to be significantly lower throughout 2024 as compared to 2023. This is in part due to completing certain batch commitments in 2023, as part of the 2020 sale of Hillerod, which is located in Denmark. We had manufacturing operations there. And these batch commitments contributed roughly $320 million in 2023, which will not recur in 2024.

The increase in revenue from new product launches and decrease in contract manufacturing revenue, along with lower idle capacity charges, are expected to have a favorable impact on cost of sales as a percentage of revenue for 2024.

We also believe we can grow our operating income at a low double-digit percentage and operating margins by a mid-single digit percentage as compared to 2023. We expect this to be driven by improved cost of sales as a percentage of revenue as well as lower expected operating expenses, resulting from our Fit for Growth initiative.

On Fit for Growth, we continue to expect to generate approximately $1 billion in gross savings and $800 million in savings net of reinvestments by 2025. We have achieved approximately $200 million of savings in 2023 and are on track to realize another $200 million in 2024, which would put us at $400 million or half of the overall net savings by the end of this year with the remainder in 2025.

In 2024, we expect our 50% portion of SG&A spend for LEQEMBI, which, as a reminder, is not included in our Fit for Growth assumptions and the reallocation of resources for

ADUHELM to roughly offset. With all of these considerations in mind, we expect our full-year 2024 combined R&D and SG&A spend to total approximately $4.3 billion.

We expect our other income and expense line to continue to be a headwind this year, given the reduction in interest income and increase in interest expense as a result of the Reata acquisition. And so in 2024, we expect an improving revenue profile, improved margins, and a return to non-GAAP EPS growth. Our number one goal remains to return to sustainable growth, and we remain committed to this goal and to creating long-term value for our shareholders."

RPRX on 2024 outlook: *"Slide 24 provides our full year 2024 financial guidance. We expect portfolio receipts to be in the range of $2.6 billion to $2.7 billion. Let me walk you through our assumptions. First, within our overall top line guidance, we expect to deliver continued attractive growth in royalty receipts. We anticipate the strength of our diversified portfolio will more than offset continued Imbruvica and Tysabri headwinds, as well as a potential launch of Promacta generics.*

Second, on a reported basis, we faced a high base of comparisons in 2023 as a result of the $525 million of Biohaven-related payment we received last year. For your modeling consideration, I remind you that the largest element, the $475 million Zavzpret milestone was received in the first quarter of 2023. As a consequence, milestones and other contractual receipts are expected to be substantially lower in 2024.

Lastly, our guidance assumes a negligible FX impact. Importantly, and consistent with our standard practice, this guidance is based on our portfolio as of today and does not take into account the benefit any future royalty applications.

Turning to operating expenses. We expect payments for operating and professional costs to be approximately 8% to 9% for full year receipts in 2024. Interest paid for full year 2024 is expected to be around $160 million and will follow the established quarterly pattern with de minimis amounts payable in Q2 and Q4. This does not take into account any interest received on our cash balance, which amounted to $72 million for full year 2023, and $8 million in the fourth quarter.

Slide 25 provides more detail on the expected evolution of royalty receipts versus milestones and other contractual receipts in 2024. For royalty receipts, we expect growth of around 5% to 9% while milestones and other contractual receipts are expected to decline from around $600 million in 2023 to approximately $30 million in 2024. The key message here is the continued, attractive underlying growth of our royalty portfolio, which we expect to deliver in 2024."

"Slide 25 provides more detail on the expected evolution of royalty receipts versus milestones and other contractual receipts in 2024. For royalty receipts, we expect growth of around 5% to 9% while milestones and other contractual receipts are expected to decline from around $600 million in 2023 to approximately $30 million in 2024. The key message here is the continued, attractive underlying growth of our royalty portfolio, which we expect to deliver in 2024."

New launches / pipeline development

JNJ on new launches: *"In 2024, we expect data readouts for many of these assets, including Phase III trials for TREMFYA in IBD, ERLEADA in early stage prostate cancer, our targeted oral peptide JNJ-2113 in psoriasis, nipocalimab in myasthenia gravis, as well as aticaprant and seltorexant in major depressive disorder. We also expect Phase II readouts for our combination therapy guselkumab and golimumab, JNJ-4804, in psoriatic arthritis, nipocalimab in Sjogren's Disease, and TAR-200 in non-muscle invasive bladder cancer. In MedTech, we share that we expect to grow at the upper range of our markets, which are*

anticipated to grow by 5% to 7% between 2022 and 2027, and that by 2027, we expect one-third of our revenue to be generated by new products. In 2024, we'll see strong progress towards these goals."

PFE on new launches: *"Completing the acquisition of Seagen doubled our oncology research and resources overnight, and meaningfully extended the reach and medical impact of our US commercial and medical footprint, with a range of portfolio expansion opportunities boosted by Seagen's broad and deep pipeline. Seagen's in-line medicines are expected to immediately enhance Pfizer's top-line growth, and our combined portfolio provides the opportunity to lead genitourinary cancers, and be a leader in breast cancer, and deliver at least eight potential blockbuster products by 2030.. On the commercial side, the PADCEV launch in locally advanced metastatic bladder cancer in combination with pembrolizumab and XTANDI launch in nonmetastic castration-sensitive prostate cancer. We are excited by the strength of the PADCEV EV-302 data and recent FDA approval, as it represents an opportunity to broaden the reach of this potentially practice-changing, platinum-free regimen to even more patients in the frontline metastatic urothelial cancer setting.. We are also looking forward to Phase 3 Data readouts from Vepdegestrant in second line HR+ metastatic breast cancer and Braftovi in first line BRAF colorectal cancer. We also plan to advance our late-stage pipeline with Phase 3 Starts of CDK4 in post-CDK4/6 metastatic breast cancer and B6A in non-small cell lung cancer."*

ABBV on new launches: "*These are very impressive results considering all patients who were inadequate responders to anti-TNF therapy. And 70% of the patients were Hurley Stage III, which is the most advanced-stage of the disease. Based on these results, we plan to begin a Phase three program in HF later this year. We also plan to evaluate Lutikizumab in ulcerative colitis and Crohn's given the role that IL-1 likely plays in these diseases. Patients with UC who have an IL one beta signature have shown resistance to anti-TNF and other biologics providing strong rationale for a potential biomarker approach. Additionally, we believe Lutikizumab has the potential to be used in combination to provide transformational levels of efficacy in IBD. We plan to evaluate combo approaches with Lutikizumab and Skyrizi as well as with other pipeline assets in Crohn's. Our Phase-II studies in IBD are expected to begin later this year. Our regulatory applications are under review for Skyrizi in ulcerative colitis. With approval decisions expected in the US and Europe later this year. One Skyrizi is approved in UC, along with Rinvoq we will have two assets with different mechanisms of action in IBD both offering very-high levels of efficacy. AbbVie will be very well-positioned with an industry-leading suite of treatment options for patients suffering from moderate-to-severe ulcerative colitis and Crohn's disease***."***

"We remain on-track to begin a Phase-III monotherapy study in third-line multiple myeloma. This year, and we plan to begin combination trials in earlier lines of therapy. In 2025. In the area of solid tumors, we recently-announced positive topline results from the Teliso-V Phase-II Luminosity study in previously treated non-small cell lung cancer Teliso-V demonstrated strong clinical benefits across key endpoints including overall response rate, duration of response and overall survival with a tolerable safety profile. We believe these results have the potential to support accelerated approval. And we plan to discuss the data with regulators in the coming months. Pending alignment with the FDA our submission is planned for the second-half of this year. We're also making good progress with our next-generation c-Met ADC ABBV-400 which utilizes the same c-Met blocking antibody has Teliso-V but has a proprietary Topo one warhead to afford, deeper and more durable responses with an improved therapeutic index."

REGN on new launches: "*In mid-2024, we plan to start our first clinical trial to evaluate the combination of our muscle preservation antibodies in combination with semaglutide. Also in 2024, we are anticipating proof-of-concept data for Factor XI antibodies in the setting of prevention of venous thromboembolism after knee replacement surgery. Based on preclinical and healthy volunteer data, our anybody approach demonstrated more complete Factor XI blockade compared to competing approaches and development for coagulation disorders and the program is on a rapid path to a registrational trial starting late this year or early next year."*

MRK on new launches: *"In cardiometabolic, we're very excited by the anticipated FDA action on our application for Sotatercept in the United States, which we believe has the potential to transform the treatment journey for many patients suffering from pulmonary arterial hypertension. Our commercial and manufacturing teams are fully prepared with a strong uptake, we expect. Sotatercept is an important component of our growing cardiometabolic pipeline, which we believe has significant long-term potential. In vaccines, the FDA accepted for priority review our filing for V116. If approved, V116 would be the first vaccine specifically designed to address the majority of invasive pneumococcal disease and adults, ages 65 and older. Based on its compelling profile, V116 has the potential to become an important new preventive option for adults, and we believe it can achieve majority market-share in this setting. We look forward to a potential approval in June. And in oncology, we continue to expand into additional tumor types and earlier stages of certain cancers, as well as progress our increasingly broad pipeline of novel candidates."*

"So when we think about the tissue targeting, we think of ADCs. And the answer is I think the ADC field will continue to develop and I think there'll be other payload other linkers, but also the specificity by which you do the tissue targeting in relationship to the antibody may change. There is also clearly evidence of potential movements into peptide drug conjugates that we're interested in, as well as the possibility that the payload is no longer chemotherapy based, but other sort of compound based. So we're interested in that. In tissue targeting, more broadly, we are interested in -- so we view that as -- okay, that's how we're going to move sort of toxic cell chemotherapy agents into tissue targeting sort of scheme, making chemotherapy precision medicine. But we also are very interested in the IO space in relationship to tissue targeting and that is our foray and that has really helped our proposed acquisition with Harpoon that has a very interesting asset in relationship to tissue targeting and engagers."

VRTX on new launches

"*Now switching to guidance. For 2024, we expect total product revenue in a range of 10.55% to $10.75 billion, representing revenue growth of 8% at the midpoint at current exchange rates. Included in this outlook is our expectation for continued growth in CF as we continue to reach more patients including younger ones in core markets and select other countries. Guidance also includes contribution from the commercial launch of CASGEVY in approved indications and geographies. We continue to expect a foundational year for CASGEVY in 2024, as we ramp up patient initiations and build toward a multi-billion dollar market opportunity overtime."*

"We're also working toward multiple additional near term commercial opportunities driving toward our five launches in five years goal. The recent approvals for CASGEVY in both sickle cell disease and beta-thalassemia deliver the first two. Now with the positive Phase 3 results from VX-548 in acute pain and for the vanzacaftor triple therapy in CF, these are potentially the next two, and with a strong clinical-stage pipeline with first-in-class or best-in-class assets, we are well on our way to our goal of five launches by 2028. In addition to the rapidly advancing clinical-stage pipeline, the next wave of innovation also continues to make progress, and as we announced last month, we are pleased to be advancing two new disease areas into the clinic"

"So in answer to your first question on vanzacaftor, the answer is both. I think vanzacaftor is going to be an attractive treatment option, both for patients who currently being treated, who might want superior control of their CFTR function, because both patients and physicians know that CFTR function and dysfunction is the underlying cause of CF, and so if you can further improved CFTR function, you're going get better clinical outcomes down the line, so I think we're going to see interest from those who are currently being treated, but I also think we're going to see a lot of interest from patients who previously discontinued one of our CFTR modulators given the profile that we've demonstrated today. And then on CASGEVY, a couple of comments really. The first one I would make is, we're very excited

about the demo and the opportunity to work with CMS for those states who are interested in working with CMS and are interested in outcomes-based agreements."

"I think we've described the patient journey for CASGEVY, it has kind of these multiple phases from patients being evaluated by their physician and deciding with their physician that this is a journey that they want to go on. You then have to go through the cell process and then the cells are infused, each of those steps can take a number of months, and as you know, we've said that we'll be recognizing revenue at the point of infusion. So in contrast to our cystic fibrosis launches, which have really seen incredibly rapid uptake, we have said that we are expecting this launch to be more like a traditional biopharma launch, but we are expecting this -- and we have said, we are expecting this to be a foundational year for us as we build momentum around CASGEVY. Having said that, in terms of the destination, we continue to believe the destination for CASGEVY is going to be used in thousands of patients and represents a multi-billion dollar opportunity. Thank you."

LLY on new launches *"As we think about Mounjaro launches outside the U.S., we have already launched in a number of select markets. We have a foundation to be competitive in many of our markets, and we anticipate continued launches. We've just launched in vial format in select markets outside of the U.S., namely in Australia, Canada and Germany and Poland. And we just received KwikPen approval in the U.K., and so we're anticipating launch there.*

As we get additional regulatory approvals for our multi-use KwikPen and we monitor our ramp-up in capacity for supply, we'll continue to launch in other markets throughout the year. So, we anticipate further growth, anticipated for launches of Mounjaro outside of the U.S. and continue with that throughout the year as well as into 2025."

"I'll start with our progress against diabetes, obesity, and complications thereof. Today, we announced positive results from SYNERGY-NASH, a Phase 2 study of tirzepatide in adults with biopsy-proven metabolic dysfunction associated steatohepatitis, also known as NASH.

As shown on Slide 17, the study met its primary endpoint, with up to 74% of participants achieving an absence of MASH with no worsening of fibrosis at 52 weeks compared to less than 13% of participants reaching this endpoint on placebo. We are equally encouraged by results seen in the secondary endpoint evaluating improvement in fibrosis.

While the study was not designed to be statistically powered to evaluate improvement in fibrosis, the study results showed a clinically meaningful treatment effect across all doses on the proportion of participants achieving a decrease of at least one fibrosis stage with no worsening of MASH to placebo.

The adverse events were consistent with those observed in other clinical trials studying tirzepatide in people living with obesity or type 2 diabetes. The full SYNERGY-NASH results will be presented at a Medical Congress later this year."

AMGN on new launches: "*In general medicine, as previously disclosed, top-line 52-week data from the 592-patient MeriTide Phase 2 study is expected by late 2024. Leveraging the durability of weight loss observed in Phase 1 and rapid enrollment enjoyed in Phase 2, we recently added a Part 2 to this study, which explores durable weight loss beyond 52 weeks.*

Our planning for a comprehensive Phase 3 program across multiple indications remains on track. Lastly, you may have seen that yesterday Nature Metabolism published a manuscript from Amgen R&D that provides the integration of MeriTide preclinical and Phase 1 data. Beyond MeriTide, our obesity strategy encompasses several assets with AMG 786 in Phase 1 and additional preclinical assets advancing. Our approach is tailored to meet the dynamic needs of obesity treatment, demonstrating a longitudinal commitment to innovation and patient care in this field.

The Phase 3 outcome study of Olpasiran our potentially best-in-class Lp(a) targeting small interfering RNA molecule in atherosclerotic cardiovascular disease has enrolled more than 7,000 patients globally. This rapid enrollment accomplished in just one year across 34

countries and over 700 sites underscores the medical community's strong interest in and the potential impact of Olpasiran.

We've deliberately expanded our initial enrollment target from 6,000 to over 7,000 patients to ensure comprehensive demographic representation and to satisfy regional regulatory requirement. We are on track to complete enrollment in the first half of 2024. In oncology, we're focused on approaching high conviction targets with differentiated therapies for large effect size.

*We're pleased to announce that the FDA granted priority review for BLINCYTO, an early-stage, CD19-positive B-ALL, with a PDUFA date of June 21, 2024. The ongoing Phase 3 Golden Gate study is enrolling patients to evaluate the effectiveness of alternating BLINCYTO with low-intensity chemotherapy, here in older adults diagnosed with Philadelphia chromosome negative B-ALL.***"**

GILD on new launches

BIIB on new launches: "*I mean, to be clear, we're adding both more Biogen as well as more Eisai. A year ago, the CEO of Eisai and I talked about the launch of LEQEMBI, and for the US, just discussed the complexity of the launch, and we've been through all that, and I won't necessarily bore everybody again with that complexity, but we just felt that we wanted to really make sure we understood the go-to-market model. In addition to these neurology account specialists, you've got MSLs, you've got some patient care navigators, you've got some people looking after KMEs in the region, and there's probably -- for every NAS, there's another two or three people who are actually out there in the field.*

And there's an awful lot of coordination that is needed. And even the role of the NAS is quite complex because you've got to go in there, you've got to work with the office around helping them to understand the safety. You have to help them understand what the care pathway is. You have to help them to understand the reimbursement, not just for LEQEMBI, but there is the reimbursement for the PET scans, the MRIs, and for the care. And then finally, there's what people in the field are -- have as a principal objective, why LEQEMBI?

So we wanted to make sure we understood all of that. And to be honest, whenever you do these copromotions, they require an awful lot of coordination between the companies. And we just felt that it would be simpler if one company went out at the start. We were sure that we knew exactly how the role of the NAS was going to work in relation to the other accompanying roles that are out there in the field. And we also needed to get a certain number of core IDNs ready and signed up because there's not a lot of point in increasing the number of people out in the field unless you've got enough sites that are activated and ready.

So now we're more than six months into the launch. I think we feel very comfortable about how the role of the NAS works. We understand how long it takes between going to visit a neurologist or an IDN and how long it's going to take for them to be activated, because, as I say, there's -- you can put an awful lot of resource out there, but if you're not able to pull the drug through, it's not a very efficient process.

So that's just where we are. We're confident in that model. Obviously, it is -- we need to now reach out to more sites. So we're looking at this from both a geographic expansion, but also, I think, even within certain geographies, perhaps reducing the territory side, because when these NASs go in, they spend quite a long time with the specialists. So it was always the agreement between the two CEOs that when we scale up that Biogen would come in, but we both -- our objective is to make the joint venture as efficient as possible. And so we just felt that the efficiency at the start would be maximized if we just had one company on the field.

Now, we've obviously learned from that, and that's what also gives us the confidence to put two companies out into the field immediately in Japan, for example, because while there are differences in the market, a number of the dynamics would be the same pretty much in most

markets. So it is an increase. Eisai is increasing their resource, and Biogen will be out there as well. And that could still evolve over time. We're going to be in this business together for many years to come."

M&A / Capital Allocation/ Strategy

JNJ on BD: *"M&A and external innovation has been the core of our pharma portfolio growth and transformation. As I said initially, we are agnostic to sector. In the case of pharma, our preferred mode has been trying to go to assets that were around proof-of-concept. So generally speaking, from a size perspective, it's been about deals that have been either of a smaller size or have been different modalities like licenses or partnerships. Just last year, we completed overall at Johnson & Johnson more than 50 deals. The thing is that the headlines are only made by the ones that are M&A. So we've done multiple deals in our pharmaceutical side in order to be able to enhance our existing portfolio, and our bias is to go for transactions that are going to enable us to create more value by leveraging our clinical development strength, our manufacturing capabilities and our commercial reach. So hence, why the majority of the deals that you see in our pharmaceutical side are at an earlier stage."*

"Are we looking broader than that? Yes, we do, but mainly, we find more opportunities to create value at an earlier stage. For example, this year we did a number of deals that went less publicized. We did, as I commented before, a deal with CBMG, now called AbelZeta, in CAR-T with CD19 and CD20, which we believe could be best-in-class CAR-Ts in this area that could launch in this decade. Or at the end of the year, we also did another deal in antibody drug conjugates with a Korean company called LegoChem, which was underreported. We continue to work in identifying deals in our pharmaceutical space that enables us to be able to put all our capabilities to work in the clinical development side, in manufacturing and in commercial, and that's been the source of very significant value creation in products that all of you know, like DARZALEX or CARVYKTI, that come from that type of approach of going earlier on into the development process."

PFE on BD: *"And then, once we bring our de-levers to the levels that we are aspiring, we will start also moving into share buybacks, and of course, M&A, which means that for '24, we will see everything in existence, because we never say never to business development opportunities could come. But our strategy, it is that you will not see anything major in business development in terms of dollars"*

MRK on BD: *Now turning to capital allocation, where our strategy remains unchanged. We will prioritize investments in our business to drive near and long-term growth. We are excited by the significant progress our team has made to advance and augment our innovative pipeline in 2023. In 2024, we will increase this investment, including the initiation of more late-stage clinical trials across multiple novel candidates, each of which has significant potential to address important unmet medical needs. We remain committed to our dividend and plan to increase it over-time. Business development remains a high-priority. We maintain ample capacity, given our strong investment-grade credit rating and cash-flow, to pursue additional, science-driven, value enhancing transactions going-forward. We will continue to execute a modest level of share repurchases.*

BMY on BD: *"As we've discussed previously, as we think about capital allocation, business development continues to be a top priority for us. Obviously, we've just executed a number of deals towards the end of last year, and we've got to stay focused on executing those deals. Having said that, we certainly are going to continue to be interested in bringing innovation into the company that makes strategic and financial sense to do. So I would characterize those a bit more as bolt-on opportunities at this point. We're also, of course, continuing to look at partnerships and licensing deals as well. But that's how I would characterize it."*

REGN on BD: *"And with regards to business development, I mean, just because we can, it doesn't mean we're going to force something, it has to be right, it has to be a franchise, has to be modality, you've heard George mentioned that it has to be kind of incremental to what*

we currently have in the clinic here with regards to RGC and the targets we develop and all of that."

VRTX on BD: *"Our priorities for cash deployment remain unchanged as we continue to prioritize investment in innovation including external innovation via business development. During 2023, we completed 10 transactions and recognized over $500 million of AIPR&D. We also deployed over $400 million to repurchase 1.3 million shares over the course of 2023. "*

LLY on BD: *"On Slide 13, we provide an update on capital allocation. Looking forward to 2024 and beyond, we have confidence in our existing commercial portfolio bolstered by the recent launches of Mounjaro, Jaypirca, Omvoh, and Zepbound, and the potential launches of donanemab and lebrikizumab, all of which we expect to serve as drivers for continued growth through the balance of the decade.*

On Slide 14, you'll see a summary of our outlook outlining our capital deployment decisions in relation to achievement of our strategic deliverables. We will invest in our current portfolio and in the future innovation through R&D, business development, and a comprehensive manufacturing expansion agenda designed to drive revenue growth and speed life-changing medicines to patients. We will continue to return capital to our shareholders through dividend increases in line with earnings growth over time and share repurchases with excess capital."

AMGN on BD: *"In summary, we continue to execute on our multiple capital allocation priorities. First, we continue to prioritize investments in both internal and external innovation. Our increased spending in non-GAAP R&D of 8% in '23 over '22, coupled with the acquisition of Horizon Therapeutics, continues to broaden and strengthen our balanced portfolio across therapeutic areas. With our strong late-stage innovative pipeline moving forward through development, we expect our non-GAAP R&D to continue to increase in 2024.*

Second, we continue investing in our business for long-term growth, including our state-of-the-art manufacturing facilities in Ohio and North Carolina. Amgen, Ohio, our new advanced assembly and final product packaging plant, has just received licensure from the FDA for commercial production in January, roughly two years after we broke ground.

And our innovative drug substance plant under construction in North Carolina is expected to be operational by 2026. In addition, we've positioned the organization to accelerate investments in innovation, including leveraging the power of generative artificial intelligence.

And third, we return capital to shareholders through growing dividends, including $2.13 per share in the quarter. This represented a 10% increase over that paid in each of 2022's four quarters."

GILD on BD: "*This is Dan. Maybe I'll start and then ask others to add, but I appreciate the question. I think just to reinforce our M&A strategy, I mean, nothing has changed from a business development perspective, and particularly that's against the context of the background of nearly doubling our clinical trials underway over the past four years, multiple late-stage results. As you know, we're expecting more than 20 results still this year, and against the backdrop of no significant patent expirations in our business until early parts of the next decade.*

So I think we'll continue to be opportunistic about pursuing business development in the three areas that we are focused on, which is obviously virology, oncology, and inflammation. We'll be driven by the science. We continue to articulate that, building our late research early development pipeline is probably one of our biggest focuses, and we'll continue to look at later-stage deals as they fit into our portfolio and our range.

It might also be important to note that we are back to pre-Immunomedics levels now relative to our leverage ratios, and so we're comfortable with our ability to put capital to work.

But nothing has changed, and we feel we have everything within Gilead right now to achieve our ambitions over the second half of this decade."

BIIB on BD:

RPRX on BD: *"As it relates to the second question around $4 billion, is that the new norm? We're not changing our capital deployment guidance that we gave last year at our Analyst Day meeting of $10 billion to $12 billion over five years. I think what it does highlight is there's a strong momentum. You can absolutely see it in our funnel and obviously the deals we've announced. We see it every day, that Royalty financing, and that can come in a lot of different ways, obviously synthetic and existing royalties, all kinds of different ways, is an absolutely growing trend within the sector. So, we're super excited about the opportunity set, but we're not changing our long-term guidance."*

Stocks mentioned

Prices and ratings for stocks mentioned in this report

BofA Ticker	Bloomberg ticker	Company name	Price	Rating
ABBV	ABBV US	AbbVie	US$ 176.59	B-2-7
AMGN	AMGN US	Amgen Inc.	US$ 289.07	B-2-7
BIIB	BIIB US	Biogen Inc.	US$ 223.35	B-2-9
BMY	BMY US	Bristol-Myers Squibb	US$ 49.44	B-2-7
LLY	LLY US	Eli Lilly	US$ 757.78	B-1-7
GILD	GILD US	Gilead Sciences Inc.	US$ 73.37	RSTR**
JNJ	JNJ US	Johnson & Johnson	US$ 157.92	A-2-7
MRK	MRK US	Merck & Co.	US$ 126.54	A-1-7
PFE	PFE US	Pfizer	US$ 27.51	B-2-7
REGN	REGN US	Regeneron Pharmaceut	US$ 954.73	B-3-9
RPRX	RPRX US	Royalty Pharma	US$ 30.03	B-1-7
VRTX	VRTX US	Vertex Pharmaceutica	US$ 426.29	B-1-9

Source: BofA Global Research. **RESTRICTED. SOLICITATION OF COMMISSION ORDERS PROHIBITED

Price objective basis & risk

AbbVie (ABBV)

Our $172 price objective (PO) is based on a 50/50 blended valuation of our DCF and 2025 non-GAAP EPS estimate P/E multiple of 13x (giving a value of $155). Our 13x P/E multiple lags peers (18.0x) due to concentration risk of the company's assets and LOE concerns to limit significant growth in the future. We assume a 7% WACC and a -1% terminal growth in our estimates to arrive at our $189 DCF valuation.

Downside risks are underachievement of key growth drivers, clinical pipeline failure(s), and reduced cash flow generation to pay down debt or dividend.

Amgen Inc. (AMGN)

Our PO for AMGN is $315 per share. We value AMGN using a sum of the parts NPV analysis of key marketed drugs ($240/sh) and pipeline and others ($156/sh), which assumes a range of weighted average cost of capital (WACC) from 5% and terminal growth rate ranging from -5% to -30% depending on the product lifecycle. Our PO also reflects -$81/sh in net debt.

Upside risks to our price objective are 1) less than-expected base business erosion2) stronger-than-expected sales of Lumakras, Tezspire, Tepezza, and 3) competitor clinical trial failures

Downside risks to our price objective are 1) faster-than-expected revenue erosion from legacy brands, 2) slower-than-expected growth of new drug launches, and 3) clinical trial failures.

Biogen Inc. (BIIB)

Our $280 price objective is based on a sum-of-the parts net present value (NPV) analysis and a discount rate of 8%. We value the MS franchise at $66/share, Spinraza at $30/share, Roche collaboration/royalty at $60/share, biosimilars at $7/share, Alzheimer's at $99/share, Zurzuvae at $3/share, Skyclarys at $40/share, the pipeline at $15/share, and net cash at -$41/share.

Upside risks to our PO are 1) less erosion of Tecfidera, Avonex, Plegridy, and Tysabri than anticipated, 2) Vumerity meaningfully capturing market share, 3) durability of Spinraza, 4) rapid uptake of Leqembi and Skyclarys, and 5) success of a number of pipeline programs

Downside risks are 1) greater-than-expected moderation of MS sales (Tecfidera, Avonex, Plegridy, and Tysabri) due to increased competition/ generics, 2) rapid erosion of Spinraza's market share in SMA, 3) limited success of the R&D pipeline, with many products failing to advance or approved with narrow indications for smaller patient populations, and 4) limited uptake of lecanemab.

Bristol-Myers Squibb (BMY)
Our $60 price objective (PO) is based on a 50/50 blended average of our risk-adjusted discounted cash flow (DCF) and P/E multiple applied to 2024E EPS. Our DCF assumes 7% WACC and -4% terminal growth rate, and we assume an approximate 8x 2024 P/E multiple given an impending patent cliff and risks associated with later-stage pipeline.

Risks to our PO are 1) uninspiring readouts from late-stage trials in key I/O indications, 2) more rapid deceleration of Revlimid erosion than expected, 3) negative outcomes from the company's later-stage pipeline assets in development, 4) pressures from headline risks facing the sector (including drug pricing reform), and 5) negative patent rulings.

Eli Lilly and Company (LLY)
Our $800 price objective is based on a probability-adjusted net present value (NPV) analysis of franchise verticals including Endocrinology ($569/share), Oncology ($122/share), Cardiovascular ($4/share), Neuroscience ($13/share), Immunology ($41/share), other pharmaceutical products and early pipeline assets ($69/share), as well as approximately -$17/share in net cash. We use a WACC ranging from 5% for approved products to 9% for pipeline products, depending on the stage of development. We apply terminal values ranging from -12% (cardiology) to 1% (endocrinology) based on projected sales decline following loss of exclusivity within each business vertical.

Risks to our price objective are 1) better-than-expected launches of competing products, 2) emerging clinical data for pipeline assets that does not confirm prior observations, 3) failure to effectively commercialize approved products, 4) potential drug pricing system restructuring in the US.

Gilead Sciences Inc. (GILD)
The security is restricted with the opinion suspended.

Johnson & Johnson (JNJ)
Our price objective of $180/share is based on a sum of the parts (SOTP) of roughly 18x MedTech multiple, and 14x pharma '24 multiple, slightly below peers given looming loss of exclusivity (LOE) and talc uncertainty, yielding $57/share, and $123/share, respectively.

The downside risks to our PO are slower growth in MedTech due to competitive pressure and faster-than-expected erosion from biosimilars to the pharma business.

Upside risks to our PO are better-than-expected launch of new products, better-than-expected clinical data for the pharma pipeline, quick resolution of talc litigation, and constructive M&A.

Merck & Co. (MRK)
Our $135 price objective (PO) is based on the intrinsic value of Merck standalone. We use a 50/50 blended average of our P/E multiple applied to 2025E EPS (we think the current 17x vs.18x peer average makes sense to reflect continued strength of Merck's core growth franchises but broader Keytruda concentration risk concerns) and risk-adjusted DCF (7% WACC and -2% terminal growth rate).

Risks to our PO are 1) impressive competitor readouts results in key immuno-oncology (I/O) indications, 2) more rapid declines across the diabetes franchise than expected, 3) negative outcomes from the company's later-stage assets in ongoing development, and 4) pressures from headline risks facing the sector (including drug pricing reform).

Pfizer (PFE)
Our $35/share for Pfizer is based on a 50/50 blended average of our discounted cash flow (DCF) analysis and P/E multiple based on the large cap global therapeutics group. For our DCF, we use a weighted-average cost of capital (WACC) of 7% and 1% terminal growth for an intrinsic value of $47/share. Our P/E analysis assumes a 10x multiple of our 2025 EPS estimate, which yields a $24 intrinsic value.

Downside risks: 1) sales downside, 2) inability for pipeline to overcome patent loss of exclusivities (LOEs) after 2025, 3) M&A transactions that are perceived to be value destructive.

Regeneron Pharmaceuticals Inc. (REGN)
Our $710 price objective is based on a probability-adjusted net present value (NPV) analysis of Eylea, including outside of US (OUS) revenues from the Bayer collaboration ($160/share), Sanofi collaboration revenue including Dupixent and other product revenues ($335/share), Libtayo ($60/share), early pipeline assets ($65/share), and the rest from net cash. We use a weighted-average cost of capital (WACC) ranging from 7% for approved products to 10% for pipeline products and terminal growth ranging from -3 to 3%. Upside risks to our price objective are 1) better-than-expected Eylea growth trajectory, 2) a larger contribution of Dupixent to Regeneron's topline from commercial uptake in new indications, and 3) better-than-expected economics realized by Regeneron from joint ventures. Downside risks to our price objective are 1) slower-than-expected growth from product sales, particularly Eylea and Dupixent, 2) failure to obtain approval for additional indications for Dupixent, and 3) pipeline setbacks.

Royalty Pharma (RPRX)
Our $40/share price objective is based on a probability-adjusted SOTP NPV analysis which includes current growth products ($32/sh, 79% of our valuation), and projected revenues from future investments ($13/sh, 33%). We project out revenues through 2038, apply a WACC of 5% (mature products) to 8% (future growth products), and use terminal growth rates ranging from -5% (current growth products) to 5% (future growth products), in-line with other mature biopharma companies. We calculate net cash as -$5/sh (-11% of our valuation).

Downside risks: 1) current portfolio royalties do not reach current assumed levels, 2) new investments fail to replicate historical returns, 3) new corporate structure and shareholder base adversely impacts historically low tax rate, 4) competition in the royalty investing space makes it harder to attain new value accretive investments, 5) patent/royalty expiries are not replaced by new royalty streams.

Vertex Pharmaceuticals Inc. (VRTX)
Our 12-month price objective for Vertex of $550/share is based on our net present value (NPV) analysis. We forecast sales for each of the approved products, Kalydeco, Orkambi, Symdeko, and Trikafta through 2030. We assume a weighted-average cost of capital (WACC) of 9%, in line with peer companies of similar size and risk and varying terminal growth rates for each asset based on its characteristics and patent life (-50% to 2%). Given these assumptions, we estimate a value of $3/share for Kalydeco, $1/share for Orkambi, $0/share for Symdeko, $417/share for Trikafta, $6/share for Casgevy, $8/share for VX-548, $58/sh for vanzacaftor, $53/share in net cash, and $4/share for the pipeline.

Risks to our price objective are 1) payer pushback on pricing, 2) difficulty in securing

reimbursement agreements, particularly in the EU, 3) clinical trial failures, and 4) new competitors in cystic fibrosis.

Analyst Certification

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I, Geoff Meacham, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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BofA Securities is currently acting as Co-Advisor to Gilead Sciences Inc. in connection with its proposed acquisition of Cymabay Therapeutics, which was announced on Monday, February 12, 2024.

BofA Securities is currently acting as financial advisor to Bristol-Myers Squibb Co. in connection with its proposed acquisition of RayzeBio, Inc., which was announced on December 26, 2023.

US - Biopharmaceuticals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
BUY				
	89bio, Inc	ETNB	ETNB US	Geoff Meacham
	Acumen Pharma	ABOS	ABOS US	Geoff Meacham
	Agios Pharmaceuticals	AGIO	AGIO US	Greg Harrison, CFA
	Amylyx Pharmaceuticals	AMLX	AMLX US	Geoff Meacham
	BioMarin	BMRN	BMRN US	Geoff Meacham
	BioXcel Therapeutics	BTAI	BTAI US	Greg Harrison, CFA
	BridgeBio Pharma	BBIO	BBIO US	Greg Harrison, CFA
	Caribou	CRBU	CRBU US	Geoff Meacham
	CRISPR Therapeutics	CRSP	CRSP US	Geoff Meacham
	Eli Lilly and Company	LLY	LLY US	Geoff Meacham
	HUTCHMED	HCM	HCM US	Alec W. Stranahan
	Immatics	IMTX	IMTX US	Alec W. Stranahan
	Insmed Incorporated	INSM	INSM US	Jason Zemansky
	Intellia Therapeutics	NTLA	NTLA US	Greg Harrison, CFA
	Janux Therapeutics	JANX	JANX US	Alec W. Stranahan
	Keros	KROS	KROS US	Greg Harrison, CFA
	Kiniksa Pharmaceuticals, Ltd.	KNSA	KNSA US	Geoff Meacham
	Krystal Biotech	KRYS	KRYS US	Alec W. Stranahan
	Kura Oncology	KURA	KURA US	Jason Zemansky
	Liquidia Corporation	LQDA	LQDA US	Greg Harrison, CFA
	Lyell Immunopharma	LYEL	LYEL US	Geoff Meacham
	MeiraGTx	MGTX	MGTX US	Alec W. Stranahan
	Merck & Co.	MRK	MRK US	Geoff Meacham
	Mineralys Therapeutics	MLYS	MLYS US	Greg Harrison, CFA
	Neumora Therapeutics	NMRA	NMRA US	Geoff Meacham
	Rani Therapeutics	RANI	RANI US	Geoff Meacham
	Regenxbio, Inc.	RGNX	RGNX US	Alec W. Stranahan
	Revolution Medicines	RVMD	RVMD US	Alec W. Stranahan
	Rocket Pharmaceuticals, Inc.	RCKT	RCKT US	Greg Harrison, CFA
	Royalty Pharma	RPRX	RPRX US	Geoff Meacham
	Sana Biotechnology	SANA	SANA US	Geoff Meacham
	SpringWorks	SWTX	SWTX US	Alec W. Stranahan
	Syndax Pharmaceuticals	SNDX	SNDX US	Jason Zemansky
	Travere Therapeutics Inc	TVTX	TVTX US	Greg Harrison, CFA
	Turnstone Biologics	TSBX	TSBX US	Geoff Meacham
	Vertex Pharmaceuticals Inc.	VRTX	VRTX US	Geoff Meacham
	Werewolf Therapeutics	HOWL	HOWL US	Jason Zemansky
	Xencor	XNCR	XNCR US	Alec W. Stranahan
NEUTRAL				
	AbbVie	ABBV	ABBV US	Geoff Meacham
	Alector, Inc	ALEC	ALEC US	Greg Harrison, CFA
	Amgen Inc.	AMGN	AMGN US	Geoff Meacham
	Arcus Biosciences	RCUS	RCUS US	Jason Zemansky
	Beam Therapeutics	BEAM	BEAM US	Greg Harrison, CFA
	Biogen Inc.	BIIB	BIIB US	Geoff Meacham
	Bristol-Myers Squibb	BMY	BMY US	Geoff Meacham
	Cytokinetics, Incorporated	CYTK	CYTK US	Jason Zemansky
	Editas Medicine	EDIT	EDIT US	Greg Harrison, CFA
	Erasca	ERAS	ERAS US	Alec W. Stranahan
	Esperion	ESPR	ESPR US	Jason Zemansky
	Exscientia	EXAI	EXAI US	Alec W. Stranahan
	IGM Biosciences	IGMS	IGMS US	Greg Harrison, CFA
	Johnson & Johnson	JNJ	JNJ US	Geoff Meacham
	Kymera Therapeutics	KYMR	KYMR US	Geoff Meacham
	Moderna	MRNA	MRNA US	Geoff Meacham
	Pfizer	PFE	PFE US	Geoff Meacham
	Recursion Pharmaceuticals, Inc.	RXRX	RXRX US	Alec W. Stranahan
	Tyra Biosciences	TYRA	TYRA US	Greg Harrison, CFA
	Vir	VIR	VIR US	Alec W. Stranahan
	Y-mAbs Therapeutics, Inc	YMAB	YMAB US	Alec W. Stranahan
UNDERPERFORM				
	AlloVir, Inc.	ALVR	ALVR US	Jason Zemansky
	CureVac	CVAC	CVAC US	Geoff Meacham

US - Biopharmaceuticals Coverage Cluster

Investment rating	Company	BofA Ticker	Bloomberg symbol	Analyst
	Day One Biopharmaceuticals	DAWN	DAWN US	Alec W. Stranahan
	Novavax	NVAX	NVAX US	Alec W. Stranahan
	Regeneron Pharmaceuticals Inc.	REGN	REGN US	Geoff Meacham
	Reneo Pharmaceuticals	RPHM	RPHM US	Jason Zemansky
	TG Therapeutics	TGTX	TGTX US	Alec W. Stranahan
	United Therapeutics Corporation	UTHR	UTHR US	Greg Harrison, CFA
RSTR				
	Gilead Sciences Inc.	GILD	GILD US	Geoff Meacham

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Important Disclosures

Equity Investment Rating Distribution: Health Care Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	234	60.94%	Buy	115	49.15%
Hold	80	20.83%	Hold	36	45.00%
Sell	70	18.23%	Sell	29	41.43%

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2023)

Coverage Universe	Count	Percent	Inv. Banking Relationships [R1]	Count	Percent
Buy	1895	53.62%	Buy	1083	57.15%
Hold	832	23.54%	Hold	454	54.57%
Sell	807	22.84%	Sell	383	47.46%

[R1] Issuers that were investment banking clients of BofA Securities or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster[R2]
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

[R2]Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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