January 28, 2015

WELLS FARGO SECURITIES

# *Equity Research*

## Concert Pharmaceuticals, Inc.

**CNCE: Management Meeting Higlights; Multiple Partnerships Could Propel Value In 2015**

**Outperform / V**

Sector: Biotechnology
Market Weight

***Company Note***

- **Summary:** This week we had the opportunity to spend several days with CNCE's senior management. Coming out of our discussions, we continue to believe that CNCE has multiple potentially valuable shots on goal, including three partnered assets, and that it is taking a rational approach to selecting follow-on deuterated drugs for clinical development that enable it to bring forward other proprietary programs. While shares have been relatively rangebound as of late, in part reflecting some setbacks for its unpartnered assets, we believe the stock price continues to look very reasonable given the promise and increasing validation of their deuteration technology, and we see the potential for appreciation over this year as news flow from partnered programs--on which CNCE could derive milestones/royalties meaningful for a company of its size--helps increase visibility.
- **Deuterated dextromethorphan remains highest-profile partnered asset.** CNCE highlighted the likely high importance of AVP-786, or deuterated dextromethorphan, to Otsuka Pharmaceuticals, which recently acquired Avanir. We agree that Otsuka's earnings hole to be created by the 2015 Abilify patent cliff for which Neudexta alone is insufficient to plug, Otsuka's large spend of half its available cash for the acquisition, and its retention of the existing AVNR management team and continuing its operation as a stand-alone entity, all point to the likelihood Otsuka will be a highly motivated partner to take forward AVP-786 in multiple indications, a positive for CNCE. The next step for the program is entrance into phase III in Alzheimer's agitation, following FDA discussions, and a read-out for the drug in ongoing phase II for major depression could also unlock value for the stock, though the mechanism is more speculative than in Alzheimer's agitation.
- *Continued on next page*

| EPS | 2013A | 2014E Curr. | 2014E Prior | 2015E Curr. | 2015E Prior |
|---|---|---|---|---|---|
| **Q1** (Mar.) | ($1.46) | ($0.76) A | NC | NE | |
| **Q2** (June) | 0.00 | (0.45) A | NC | NE | |
| **Q3** (Sep.) | (5.58) | (0.43) A | NC | NE | |
| **Q4** (Dec.) | (4.66) | (0.63) | NC | NE | |
| **FY** | ($4.99) | ($2.16) | NC | ($1.41) | NC |
| **CY** | ($4.99) | ($2.16) | | ($1.41) | |
| **FY P/EPS** | NM | NM | | NM | |
| **Rev.(MM)** | $25,408 | $8,146 | | $22,520 | |

*Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters*
*NA = Not Available, NC = No Change, NE = No Estimate, NM = Not Meaningful*
*V = Volatile, = Company is on the Priority Stock List*

*EPS for 2013-14 do not equal the sum of the quarters due to changes in the average share calculations.*

| | |
|---|---|
| Ticker | CNCE |
| Price (01/28/2015) | $13.11 |
| 52-Week Range: | $7-17 |
| Shares Outstanding: (MM) | 17.9 |
| Market Cap.: (MM) | $234.7 |
| S&P 500: | 2,029.17 |
| Avg. Daily Vol.: | 133,301 |
| Dividend/Yield: | $0.00/0.0% |
| LT Debt: (MM) | $0.0 |
| LT Debt/Total Cap.: | 0.0% |
| ROE: | NM |
| 3-5 Yr. Est. Growth Rate: | NM |
| CY 2015 Est. P/EPS-to-Growth: | NM |
| Last Reporting Date: | 11/12/2014 Before Open |

*Source: Company Data, Wells Fargo Securities, LLC estimates, and Reuters*

**Valuation Range: $15.00 to $17.00**
Our valuation range is based on applying a 30x multiple to our 2022 estimated EPS and discounting at 15%, blended with 6x multiple of 2022 estimated sales, and discounting 12%. Key risks, in our view, are failure of '354 and/or '499 to show efficacy in subsequent studies and regulatory hurdles in spasticity or CKD.

**Investment Thesis:**
We believe Concert's proprietary and partnered candidates, and drug deuteration platform, will generate long-term value.

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**Please see page 3 for rating definitions, important disclosures and required analyst certifications**
**All estimates/forecasts are as of 01/28/15 unless otherwise stated.**





- **Complete phase I data for JZP-386, due Q2 2015, key to assess commercial potential and viability.** CNCE reaffirmed that while the initial phase I did not reach its highest dose due to a "technical dosing issue," there was no toxicity observed in human testing of JZP-386, a deuterated form of sodium oxybate. A second phase I study for the single-highest dose is due for completion in Q2 2015, at which point Jazz will likely decide whether to proceed with further development, upon which a $4MM milestone would be due to CNCE. Based on its experience in evaluating Xyrem's PK/PD markers, we believe Jazz likely understands well how these early results will translate from healthy volunteers to sick patients. Important in assessing '386's potential, as well as the potential of competitors such as Flamel, would be not only long half-life and potential to eliminate middle-of-the-night dosing, but also variability of exposure at the end of the curve--i.e., how cleanly the drug leaves the system, to reduce next-day residual effects. Though we would have liked to have seen more color in the initial press release updating the '786 phase I to improve our comfort encouraging PK/PD results may have been observed, we do acknowledge that the fact the originally planned high dose continues to be explored indicates safety was benign and a dose-dependent response in sodium oxybate exposure may have been seen.

- **Exploration of ways to deuterate multiple Celgene compounds demonstrates extensibility of technology**. A phase I single-ascending dose study of CTP-730, that derives from an anti-inflammatory therapeutic, was initiated last year and is to be run through 2015, with a $8MM milestone due after submission of a phase I study report to CELG. The partnership also covers another three preidentified CELG compounds, in inflammation and oncology, and our sense is CNCE is in active discussions with CELG about the potential to take any of these additional compounds forward. While timing of disclosure of data and programs would be driven by CELG, we believe the breadth of the collaboration illustrates the flexibility of CNCE's deuteration platform to optimize molecules across a variety of indications, and note the potential for significant long-term milestones in a deal covering $1.4B in aggregate.

- **Preclinical safety still a hurdle for '354, continuing to be explored.** The company's plans to study potential nonsedating benzo CTP-354 in a phase II for spasticity had been on hold due to a preclinical toxicity signal seen in a nonrodent animal, one of two animal species tested in a longer safety study. Studies are currently being conducted to understand the mechanism of the toxicity, its origins, the extent of the toxicity in affected and unaffected tissues; management noted data generated to date suggests it is toxicity that could be limited to a single species. Our sense was that Concert continues to conduct inexpensive preclinical work in case CTP-354 could get restarted, especially given the potential expansive opportunity should this program be successful, but is no longer including further clinical development in its financial planning or in the base case for development strategy if ongoing studies do not support further development in about a year's time. While these recent developments have been disappointing, importantly we believe CNCE made a good case the toxicity is likely compound-specific and not a broad issue with deuteration itself, given humans have been exposed to deuterated compounds for up to two years now and observed adverse effects (AEs) have thus far generally been attributable to intrinsic properties of the molecules.

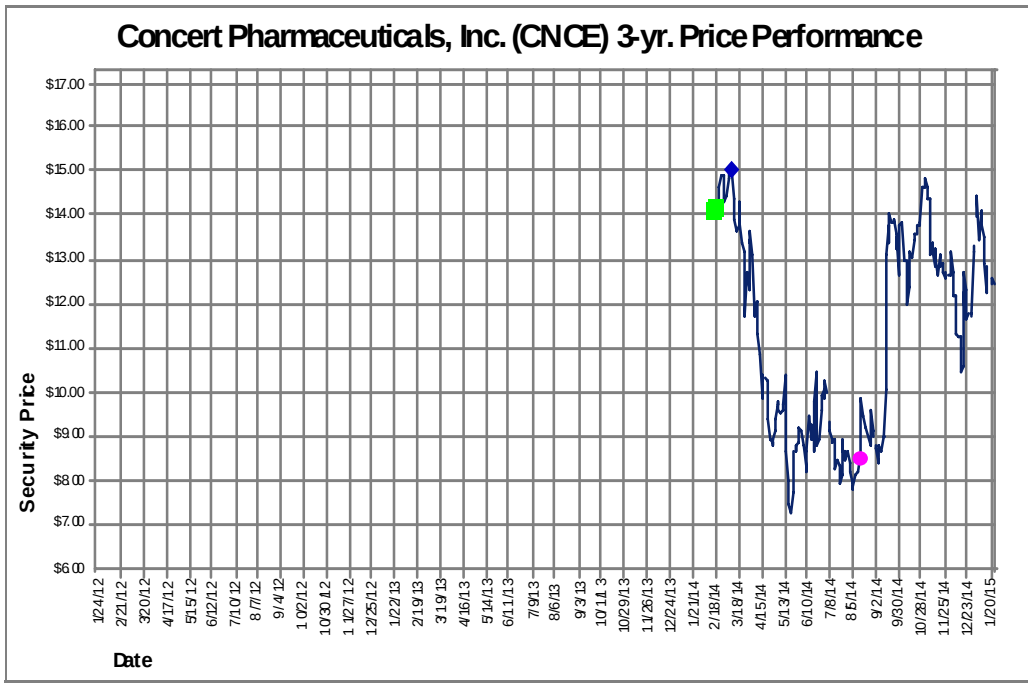
- **Awaiting SPA and potential partnership for '499 in diabetic kidney disease. CTP**-499 for diabetic chronic kidney disease is pending receipt of an FDA Special Protocol Assessment, which management hopes to have completed by year-end 2015, though there can be variability in timing as the pace of discussions to determine study parameters (size and length of trial) hinge on the FDA's 45-day response clock for questions/commentary from the company; historically FDA has asked for a minimum of two years of patient exposure, and including patient enrollment, a phase III could extend beyond three years. While our sense was CNCE is having active discussions with a small number of potential partners, the pace of discussions appear to hinge on the SPA, as, unsurprisingly, potential partners are focused on the potential expense of a phase III. We believe '499 has shown promising signals of activity, though it is unclear whether a potential partner would take on the potential high costs and indication-intrinsic risks to conduct a pivotal program.

- **Cash position steady as internal programs readied to bring forward clinical candidate in 2015, and another candidate potentially in 2016.** Management reiterated its plans to bring forward a preclinical candidate in 2015 into development within its proprietary unpartnered portfolio, and ultimately commercialization as a wholly controlled asset, based on a parent drug that is already marketed and targeted towards a small population. Cash burn is at a rate of $40MM a year, and based on its end of Q3 cash position of $93MM and a potential $15MM in milestones in 2015, we believe could allow the company to get into 2017.

## Company Description:

Concert Pharmaceuticals (CNCE), Inc., headquartered in Lexington, Massachusetts, is a biotechnology company focused on improving therapies in a variety of areas such as neurology and kidney disease, using its platform technology around deuterium substitution. The company's lead development candidate is CTP-354, a GABA-A partial agonist in development for muscle spasticity. Another development candidate is CTP-499, a phosphodiesterase enzyme inhibitor in development for diabetic kidney disease. Alongside '354 and '499, its partnered pipeline includes CTP-730, a deuterated anti-inflammatory drug partnered with Celgene, AVP-786 for major depressive disorder and Alzheimer's agitation partnered with Avanir, and JZP-386, a deuterated version of Xyrem for narcolepsy, partnered with Jazz.

# Required Disclosures




| | Date | Publication Price ($) | Rating Code | Val. Rng. Low | Val. Rng. High | Close Price ($) |
|---|---|---|---|---|---|---|
| ❐ | 2/13/2014 | | IPO at $14.00 | | | |
| | 3/10/2014 | | Abrahams, M.D. | | | |
| ◆ | 3/10/2014 | 14.88 | 1 | 21.00 | 23.00 | 15.03 |
| ● | 8/12/2014 | 8.47 | 1 | 15.00 | 17.00 | 8.60 |

Source: Wells Fargo Securities, LLC estimates and Reuters data

Symbol Key

| | | | |
|---|---|---|---|
| ▼ | Rating Downgrade | ◆ | Initiation, Resumption, Drop or Suspend |
| ▲ | Rating Upgrade | ■ | Analyst Change |
| ● | Valuation Range Change | ❐ | Split Adjustment |

Rating Code Key

| | | | |
|---|---|---|---|
| 1 | Outperform/Buy | SR | Suspended |
| 2 | Market Perform/Hold | NR | Not Rated |
| 3 | Underperform/Sell | NE | No Estimate |

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**CNCE:** Key risks, in our view, are failure of '354 and/or '499 to show efficacy in subsequent studies and regulatory hurdles in spasticity or CKD.

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As of: January 28, 2015

| | |
|---|---|
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