Adamas Pharmaceuticals, Inc. (ADMS) — Overweight

A Validated CNS Platform With Compelling Optionality; Initiating At Overweight

CONCLUSION

We are initiating coverage of Adamas with an Overweight rating and $32 PT. Adamas has the potential to generate compelling cash flows over the long-term, driven by ADS-5102, an extended release (ER) form of amantadine for levodopa-induced dyskinesias (LID) associated with Parkinson's disease (PD) treatment, and royalties from partner Forest/Actavis on two line extensions for Alzheimer's blockbuster Namenda (aka memantine). With $200M+ in U.S. peak sales potential for ADS-5102 in LID, and a high probability that the memantine franchise sustains north of $1B in annual sales despite the availability of generics on the legacy immediate release (IR) form (pointing to royalties to Adamas of $100M+ starting in 2020; we estimate that ADMS will reach profitability in 2018), we believe there is compelling optionality associated with ADMS at a market cap of $325M.

- **ADS-5102 a promising, and relatively low-risk shot-on-goal in Parkinson's.** In a multi-dose Phase II/III trial, treatment with ADS-5102 resulted in an improvement in "on" times without troublesome dyskinesias (i.e., the "sweet spot" between the rigidity associated with PD and excessive movements associated with high levels of standard-of-care PD treatment levodopa) ranging from 2.7-3.3 hours over placebo. The data in our view are stronger than what we see for adjunctive therapies used in PD. ADMS will run a Phase III study testing the 340 mg dose versus placebo, with data likely in 2H15. The strong body of data (not to mention a the 505(b)(2) filing pathway) points to relatively low regulatory risk in our view, with U.S. commercialization likely in 2017.

- **Expansion opportunities for ADS-5102 can provide additional sources of value creation.** In 2H14, ADMS is planning to move ADS-5102 into a second Phase II study in traumatic brain injury (TBI). Management is also planning to explore additional CNS-focused indications, none of which (including TBI) are reflected in our estimates.

- **Namenda (aka memantine) line extensions durable, pointing to a compelling royalty stream longer-term.** Line extension #1 Namenda XR already has captured 23% of memantine retail volumes, and enjoys broad unrestricted Medicare Part D access. FDA action on line extension #2, a combo pill of Namenda XR and Aricept, is expected by 4Q14 (and over 70% of Namenda patients take Aricept in combination). Given this backdrop, along with FRX's "hard switch" (i.e., removing Namenda IR from the market in August), we do not believe that Namenda IR generic entrants will gain a major foothold in the memantine market. Longer-term, there undoubtedly will be concerns regarding the durability of these assets. That said, given the importance of the memantine franchise to FRX (almost half of FY 2014 revenue), we do not believe ACT (who itself was a generic filer on Namenda XR) would have gone ahead with its purchase of FRX if it had doubts regarding the defensibility of the patent estate.

RISKS TO ACHIEVEMENT OF PRICE TARGET

Clinical setbacks for ADS-5102 and commercial risks for the Namenda line extensions.

COMPANY DESCRIPTION

Adamas is focused on treatments for diseases of the central nervous system.

PRICE: US$20.01
TARGET: US$32.00
15x 2020E EPS of $5.28, disc. 20%

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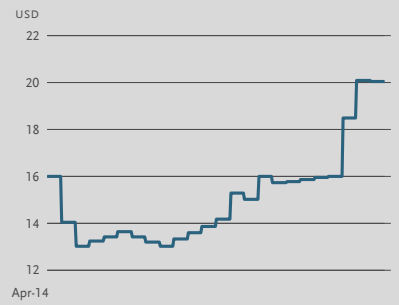
Changes	Previous	Current
Rating		Overweight
Price Tgt		US$32.00
FY14E Rev (mil)	—	70.0
FY15E Rev (mil)	—	0.0
FY14E EPS	—	2.41
FY15E EPS	—	(2.03)

52-Week High / Low	US$21.63 / US$12.02
Shares Out (mil)	16.4
Market Cap. (mil)	US$328.2
Book Value/Share	US$7.70
Net Cash Per Share	US$7.30
Debt to Total Capital	0%
Div (ann)	US$0.00
Fiscal Year End	Dec

Price Performance - 1 Year



Source: Bloomberg

YEAR	REVENUE (m)						EARNINGS PER SHARE ( )					
	Mar	Jun	Sep	Dec	FY	FY RM	Mar	Jun	Sep	Dec	FY	FY P/E
2013A	—	—	—	—	71.1	4.6x	—	—	—	—	2.63	7.6x
2014E	40.0	0.0	0.0	30.0	70.0	4.7x	2.42	(0.48)	(0.49)	1.28	2.41	8.3x
2015E	0.0	0.0	0.0	0.0	0.0	NA	(0.50)	(0.50)	(0.51)	(0.52)	(2.03)	NM

INVESTMENT HIGHLIGHTS

We are initiating coverage of Adamas Pharmaceuticals with an Overweight rating and $32 price target. Adamas is focused on leveraging its deep formulation expertise in building a pipeline of therapeutics for the treatment of diseases of the central nervous system (CNS). Adamas' CNS-focused pipeline, led by ADS-5102, an extended-release (ER) form of amantadine, for the treatment of levodopa-induced dyskinesias (LID) associated with the treatment of Parkinson's disease (PD), positions the company for attractive cash flows. With impressive Phase II/III data already in hand, ADS-5102 represents a relatively low-risk, late-stage shot-on-goal in our view. We believe peak sales potential of at least $200 million for ADS-5102 is realistic, bearing in mind the limitations of adjunctive therapies in PD. Further, with a concentrated neurologist prescriber base, ADMS can easily build a small specialty sales force to support U.S. commercialization (i.e., high operating margins). Importantly, Adamas' expertise has in our view already been validated via its partnership with Forest Labs (soon to be Actavis) on two line extensions for FRX's top-selling Alzheimer's drug Namenda (aka memantine). The strength of the intellectual property (IP) associated with these line extensions was in our view validated by Actavis' purchase of Forest, given that Actavis has been a generic filer on one of these products (Namenda XR; more on this below) and is clearly one of the key heavyweights in the generics space. In short, we believe these are durable assets (with patents expiring as late as 2029) that will generate attractive royalty income for ADMS (potentially near $120 million by 2022 on sales of $1.1 billion for FRX/ACT's memantine franchise). Given the potential income streams from ADS-5102 and the memantine line extensions (we are estimating profitability by 2018), we believe that ADMS shares are trading at a compelling risk/reward in the context of a market cap of only $325 million, with $120 million in cash on hand, a relatively modest cash burn and milestone streams from FRX/ACT obviating the need for additional dilutive financing. Our price target of $32 is based on our 2020 EPS estimate of $5.28, times a P/E of 15x, discounted at 20% (and is supported by our 10-year discounted cash flow (DCF) analysis).

ADS-5102 forms the foundation of Adamas' internal pipeline; a late-stage, relatively low-risk shot-on-goal in the Parkinson's space. The IR form of amantadine is approved for symptoms of PD, though the product is not widely used in this setting due to tolerability limitations, not the least of which is psychiatric side effects. ADMS's ER form of the product, ADS-5102, is looking to improve upon the tolerability profile of amantadine, thereby enabling higher, more efficacious dosing. In a multi-dose placebo-controlled, 8-week Phase IIb/III trial, ADS-5102 treatment resulted in an improvement in "on" times without troublesome dyskinesias of around 3 hours at all doses versus placebo. In our conversations with neurologists, it is clear that this is one of the most clinically important endpoints since it is a measure of that "sweet spot" where PD symptoms (e.g., rigidity) are kept at bay without the patient experiencing the excessive, uncontrolled movements (i.e., the dyskinesias) associated with high levels of levodopa. The data are impressive in our view given that treatment with adjunctive therapies for PD (e.g., Teva's Azilect, dopamine agonists such as Mirapex) typically do not yield improvements in "on" time without troublesome dyskinesias by more than 60-90 minutes. ADMS is now planning to run a Phase III study testing the 340 mg dose versus a placebo, and should be in a position to file its NDA in early 2016, pointing to U.S. commercialization in 2017. We believe sales could reach north of $200 million by 2023 (this reflects annual TRx of 565,000, which is around 12% of TRx's currently written for levodopa/carbidopa annually).

Label expansion opportunities for ADS-5102 could provide additional sources of longer-term value creation. We note that IR amantadine has historically been used off-label in a number of movement disorders as well as psychiatric disorders. There are around 850,000 TRx's written for IR amantadine annually, and we estimate that the vast majority of TRx's are for myriad off-label uses. It is therefore intuitive to expect that ADMS will explore additional uses of its optimized form of the molecule, particularly considering that ADMS has an issued patent related to the PK profile of ADS-5102 (that expires in 2027) and has an additional five U.S. patent applications that are pending. The company is planning to move ADS-5102 into a Phase II study in behavioral symptoms associated with traumatic brain injury (TBI) later in 1H14. In an investigator-sponsored study of 76 patients, a twice-daily dose of ADS-5102 of 100 mg resulted in a statistically significant reduction in irritability and aggression compared to placebo. Management has also suggested that it will disclose a third indication that it plans to pursue sometime in the next 1-2 years. Further, the company will also leverage its formulation expertise to develop a fixed-dose combination of ADS-5102 and another molecule (yet to be disclosed) in the LID setting. We note that none of these potential expansion opportunities are reflected in our current estimates.

Namenda line extensions a major validator of Adamas' expertise, and also intellectual property. Adamas is partnered with Forest Labs (soon to be Actavis) on two line extensions for Namenda, a near $1.6 billion seller: Namenda XR, a once-daily form of memantine, and a fixed-dose combination (FDC) of Namenda XR and Aricept (roughly 70%-80% of Namenda patients take Aricept in combination). Namenda XR launched in mid-2013. FDA action on the FDC, also known as MDX-8704, is expected by 4Q14. ADMS is entitled to royalties starting 5 years following the launch of each product (a low-to-mid single digit royalty on Namenda XR starting in 2018, and a low-to-mid-teens royalty on MDX-8704 starting in 2020). There undoubtedly will be questions regarding the durability of these assets. That said, given the importance of the memantine franchise to FRX, we do not believe ACT would have went ahead with the purchase if it did not believe that the IP around the products were defensible. We note that ADMS has not only formulation-related IP, but also IP around the pharmacokinetic (PK) properties of its extended-release form of memantine (an example is patent #8,168,209, which expires in November 2025; more on this below). A paragraph IV (PIV) filer can engineer its generic around formulation IP (i.e., demonstrate non-infringement). A PIV however would need to demonstrate that IP with PK-related claims is invalid, a tougher hurdle for potential generics in our view (i.e., one cannot engineer around a PK claim). Given this backdrop, we believe that the memantine franchise (namely the line extensions) is durable.

Sizing up the Namenda royalty stream: a $1B+ franchise even with generic entrants on the predecessor formulation. Namenda XR currently accounts for 23% of total prescriptions (TRx) for the memantine franchise. FRX's plan to discontinue the predecessor formulation (i.e., Namenda IR) by August 15, 2014 (i.e., a "hard switch" over to Namenda XR) has been well-documented. We note that unrestricted Medicare Part D access for Namenda XR now encompasses over 80% of covered lives. With the launch of the FDC in late 2014 or early 2015, we would expect FRX to aim to switch the bulk of Namenda XR patients, bearing in mind that most Namenda patients also take Aricept in combination. We would also not be surprised to see FRX price the FDC lower than Namenda XR, bearing in mind that Aricept went generic in 2009 and has essentially been commoditized. The one-two punch of the line extensions, coupled with FRX not being aggressive on price, points to a high probability of FRX/ACT maintaining a significant chunk of its brand share despite the entry of generics on Namenda IR following the expiry of its last Orange Book patent in April 2015. This is bearing in mind of course that with the reference listed drug (RLD) no longer available, there is no retail pharmacy substitutability between the brand forms of memantine and the IR generics. We estimate that the IR generics will capture a relatively

modest 30% of the entire memantine market, with annual brand sales of the franchise reaching a nadir of $1.1 billion. As a point of comparison, we note that generic forms of Endo's predecessor form of Opana ER now have 32% of this market approximately 16 months following market entry, with Endo removing this form (a non-crush-resistant formulation) from the market in early 2012. With durable brand volume share, plus durable IP, ADMS could very well be on the receiving end of a compelling royalty stream, particularly starting in 2020 when the more attractive low-to-mid-teens royalty on the FDC kicks in. By 2022, we are estimating Namenda XR sales of $480 million (royalties to ADMS of $20 million) and FDC sales of $675 million (royalties to ADMS of $100 million). At current levels, we would argue that ADMS shares are not ascribing any value to the durability of the memantine franchise, and hence the potential royalty stream.

VALUATION

We are basing our $32 price target on our 2020 EPS estimate of $5.28, times a P/E of 15x, discounted at 20% for 5 years. We use 2020 since it is a better reflection of steady-state profitability (contribution from ADS-5102 and royalties from Namenda XR and the fixed-dose combination of Namenda XR/Aricept, bearing in mind that royalties for the FDC kick in during 2020, which would be five years following the launch of the product, per the agreement with FRX). Our model reflects U.S. contribution from ADS-5102 in LID, and assumes a commercial launch in 2017. As the product gains traction, we would expect to see significant operating margin expansion given that the sales force requirements to support ADS-5102 will not be onerous (i.e., a highly concentrated neurologist prescriber audience). Our model also reflects continued R&D expenditures to support label expansion initiatives for ADS-5102, but does not reflect revenue contribution from these opportunities. Our model also does not reflect ex-U.S. revenue for ADS-5102, nor does it reflect any contribution from the rest of ADMS' pipeline.

We are modeling sustainable profitability beginning in 2018. We believe that a P/E of 15x is appropriate for Adamas based on an analysis of comparable specialty pharma companies. The comparable companies that we incorporate in our analysis are all focused on the CNS space, broadly speaking. These are companies that for the most part do not have new chemical entities in their product portfolios (in other words, there are questions regarding the durability of these assets, though there is significant IP protection in place for the bulk of these products). The mean 2016 and 2017 P/E's for this group are 16x and 14x, respectively. We believe a discount rate of 20% appropriately reflects the risks associated with Adamas, namely clinical and regulatory risks associated with ADS-5102, regulatory risks associated with the fixed-dose combination of Namenda XR/Aricept, as well as the risks associated with the rest of the pipeline (i.e., a high discount in a general sense is certainly appropriate for a development-stage entity). We note that our valuation conclusion is supported by our 15-year discounted cash flow analysis (refer to Exhibit 2 below).

Exhibit 1

PEER GROUP VALUATION ANALYSIS

($M except per share and multiples)			Market	Ent.	EPS				P/E				Revenue				EV/Revenue			
Ticker	Company	Price [1]	Cap	Value	2014E	2015E	2016E	2017E	2014E	2015E	2016E	2017E	2014E	2015E	2016E	2017E	2014E	2015E	2016E	2017E
ENDP	**Endo**	**$65.79**	**$9,838**	**$13,050**	**$3.55**	**$3.85**	**$4.19**	**$4.34**	**18.5x**	**17.1x**	**15.7x**	**15.2x**	**$2,592**	**$2,611**	**$2,678**	**$2,757**	**5.0x**	**5.0x**	**4.9x**	**4.7x**
JAZZ	**Jazz**	**$139.62**	**$8,110**	**$8,024**	**$8.20**	**$10.18**	**$11.89**	**$13.64**	**17.0x**	**13.7x**	**11.7x**	**10.2x**	**$1,133**	**$1,358**	**$1,545**	**$1,736**	**7.1x**	**5.9x**	**5.2x**	**4.6x**
IPXL	**Impax**	**$27.00**	**$1,892**	**$1,501**	**$0.70**	**$0.85**	**$1.18**	**$1.76**	**38.6x**	**31.8x**	**22.9x**	**15.3x**	**$523**	**$568**	**$619**	**$667**	**2.9x**	**2.6x**	**2.4x**	**2.3x**
ACOR	**Acorda**	**$32.39**	**$1,349**	**$1,080**	**$0.52**	**$0.87**	**$1.32**	**$1.52**	**NM**	**37.2x**	**24.5x**	**21.3x**	**$364**	**$413**	**$470**	**$526**	**3.0x**	**2.6x**	**2.3x**	**2.1x**
HZNP	Horizon	$14.31	$981	$1,011	$0.50	$1.16	$1.52	$1.95	28.6x	12.3x	9.4x	7.3x	$260	$414	$499	$581	3.9x	2.4x	2.0x	1.7x
DEPO	Depomed	$13.94	$806	$545	$0.31	$0.22	NA	NA	45.0x	NM	NA	NA	$210	$181	NA	NA	2.6x	3.0x	NA	NA
ASPX	Auspex	$18.92	$447	$410	($1.58)	($1.97)	($0.94)	$0.37	NM	NM	NM	NM	$0	$4	$49	$99	NM	NM	8.5x	4.2x
VNDA	Vanda	$14.51	$491	$361	($1.60)	($0.90)	($0.20)	$0.48	NM	NM	NM	30.2x	$44	$80	$98	$216	8.1x	4.5x	3.7x	1.7x
ZGNX	Zogenix	$2.48	$346	$303	($0.60)	($0.34)	$0.01	$0.34	NM	NM	NM	7.3x	$72	$100	$174	$240	4.2x	3.0x	1.7x	1.3x
SUPN	**Supernus**	**$8.00**	**$336**	**$289**	**($0.85)**	**$0.25**	**$1.06**	**$1.58**	**NM**	**32.0x**	**7.5x**	**5.1x**	**$78**	**$145**	**$196**	**$269**	**3.7x**	**2.0x**	**1.5x**	**1.1x**
Average - Adamas Peer Group									**37.4x**	**28.3x**	**16.1x**	**14.4x**					**4.1x**	**2.9x**	**3.2x**	**2.0x**

Source: PJC estimates, FirstCall, Bloomberg, and company reports
(1) Prices are as of May 2, 2014
Note: Bold denotes coverage companies for David Amsellem

Exhibit 2

DISCOUNTED CASH FLOW (DCF) ANALYSIS

$ in millions, except per share	12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/30/24	12/30/25	12/30/26	12/30/27	12/29/28
Revenue															
ADS-5102 Net Sales (LID and other indications) [1]	$0.0	$0.0	$0.0	$48.5	$91.8	$129.8	$149.8	$170.2	$191.0	$212.2	$265.2	$331.6	$381.3	$419.42	$461.4
Namenda royalties	$0.0	$0.0	$0.0	$0.0	$16.7	$17.3	$111.8	$116.2	$120.8	$125.5	$129.3	$133.2	$137.2	$141.3	$145.5
Milestone Payments	$70.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other revenue	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total revenue	**$70.0**	**$0.0**	**$0.0**	**$48.5**	**$108.6**	**$147.1**	**$261.6**	**$286.4**	**$311.8**	**$337.7**	**$394.5**	**$464.7**	**$518.5**	**$560.7**	**$606.9**
COGS	$0.0	$0.0	$0.0	$9.7	$18.4	$23.4	$27.0	$30.6	$34.4	$38.2	$47.7	$59.7	$68.6	$75.5	$83.0
R&D	$19.4	$21.9	$24.1	$22.9	$23.5	$22.9	$22.3	$21.7	$15.2	$10.7	$10.4	$10.2	$10.0	$9.0	$8.1
SG&A	$12.4	$13.8	$19.0	$34.0	$38.6	$42.8	$46.4	$47.7	$49.7	$50.9	$45.8	$43.5	$41.4	$39.3	$37.3
Amortization	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Operating income	**$38.2**	**($35.7)**	**($43.1)**	**($18.0)**	**$28.2**	**$58.1**	**$165.9**	**$186.4**	**$212.5**	**$238.0**	**$290.5**	**$351.3**	**$398.4**	**$436.9**	**$478.4**
Free Cash Flow Calculation															
Operating Income	**$38.2**	**($35.7)**	**($43.1)**	**($18.0)**	**$28.2**	**$58.1**	**$165.9**	**$186.4**	**$212.5**	**$238.0**	**$290.5**	**$351.3**	**$398.4**	**$436.9**	**$478.4**
Income Taxes	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	($18.6)	($53.1)	($83.3)	($72.6)	($133.5)	($151.4)	($166.0)	($181.8)
Depreciation	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1
Capital Expenditures	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.1)	($0.1)	($0.1)	($0.1)
Net Changes in Working Capital	$0.3	$0.2	$0.2	($6.4)	($3.4)	($2.4)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Unlevered Free Cash Flow	**$38.4**	**($35.6)**	**($43.0)**	**($24.5)**	**$24.7**	**$55.6**	**$165.8**	**$167.6**	**$159.3**	**$154.6**	**$217.8**	**$217.8**	**$247.0**	**$270.9**	**$296.6**

		12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/30/24	12/30/25	12/30/26	12/30/27	12/29/28
Sum of Free Cash Flows	$1,913.1															
Discount Rate	20%															
Terminal Grow th Rate	10%															
Terminal Value	**$3,263.0**															
		12/31/14	12/31/15	12/31/16	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22	12/31/23	12/30/24	12/30/25	12/30/26	12/30/27	12/29/28
Discount periods (years)		0.7	1.7	2.7	3.7	4.7	5.7	6.7	7.7	8.7	9.7	10.7	11.7	12.7	13.7	14.7
Present Value of Free Cash Flows	**$273.6**	**$34.1**	**($26.3)**	**($26.4)**	**($12.6)**	**$10.5**	**$19.8**	**$49.2**	**$41.4**	**$32.8**	**$26.5**	**$31.2**	**$26.0**	**$24.5**	**$22.4**	**$20.5**
Present Value of Terminal Value	**$225.1**															
Adamas Market Value	**$498.7**															
Diluted shares outstanding (MM)	16.4															
Adamas Market Value per Share	**$30**															

(1) Reflects usage of ADS-5102 in other indications such as traumatic brain injury and other movement disorders longer-term. Also reflects potential of line extensions for ADS-5102 (such as a fixed-dose combination with another molecule).

Source: PJC Research and company reports

RISKS TO OUR THESIS

Clinical and regulatory risk related to ADS-5102. Adamas' regulatory and clinical risks are generally similar to those of its other specialty pharma peers. The company has clinical risk related to its Phase III program for ADS-5102 as well as risk associated with earlier stage studies for the product (such as development in traumatic brain injury). That said, ADS-5102 will be filed via the lower-risk 505(b)(2) pathway, and already has a strong body of data in LID. There is greater risk associated with ADS-5102 in expansion indications bearing in mind that these are earlier stage opportunities (we have only seen early Phase II data in the TBI setting to date).

Generic competition that may impact the Namenda line extensions. Generics for the immediate-release formulation of Namenda are set to enter the market in April 2015 (when patents on the product expire), though the generic launches could take place in October 2015 if Forest is able to gain a 6-month pediatric extension on its patent. The bottom line is that even though Namenda IR will be removed from the market in August 2014, generic versions will eventually compete with the line extensions. Though we believe it will be far more difficult for generic entrants to gain significant traction given that there will not be retail pharmacy substitutability and given that there are not one but two line extensions available, it is still difficult to handicap what the impact of generics on Namenda IR will be. A larger than expected share of overall memantine volumes would obviously have an adverse impact on the royalty stream to ADMS.

Commercial risk related to ADS-5102. IR amantadine has been available as a generic for a number of years. Though we believe that managed care access for ADS-5102 will be broad (i.e., mainly unrestricted Tier 3 access) given the body of data on the product, there is always the risk that the managed care environment will be difficult given that the predecessor product is relatively cheap (and given that there are other adjunctive therapies in the PD space that are available as generics).

Intellectual property risks related to Namenda line extensions. Though there are a number of issued patents related to both Namenda XR and MDX-8704 (NamendaXR/Aricept) that expire as late as 2029, generics companies nonetheless have already filed abbreviated NDA's under paragraph IV for Namenda XR, and we would expect a number of PIV filings on MDX-8704 after it becomes commercially available. Though we believe that the patents surrounding the PK profile of Namenda XR translate into a tougher hurdles for potential generics (i.e., PIV filers will have to win on the basis of invalidity rather than simply engineering around the formulation and demonstrating non-infringement), it is still nonetheless difficult to handicap the outcome of patent litigation.

UPCOMING EVENTS AND MILESTONES

Exhibit 3

ADAMAS CALENDAR OF UPCOMING EVENTS

Product/ Program	Event	Expected Date
Namenda XR	Discontinuation of shipping of Namenda IR and completition of switch to Namenda XR	August 2014
Namenda XR/Aricept	FDA action in Alzheimer's	4Q14
ADS-5102	Possible Phase 3 data for levodopa-induced dyskinesia in Parkinson's	2H15
ADS-5102	Possible NDA submission	early 2016

Source: Company reports and PJC Research

Exhibit 4

ADAMAS PHARMACEUTICALS PRODUCT PIPELINE

Product	Treatment Setting	Pre-IND	Ph I	Ph 2	Ph 3	NDA/Market
Namenda XR	Moderate-to-Severe Alzheimer's					
ADS-5102 (amantadine ER)	Levodopa-induced dyskinesia in Parkinson's					
	Traumatic Brain Injury					
MDX-8704 (Namenda XR/Aricept) (U.S.)	Moderate-to-Severe Alzheimer's					
ADS-8704 (Namenda XR/Aricept) (ex-U.S.)	Moderate-to-Severe Alzheimer's					
ADS-8902 (amantadine/ribavirin/oseltamivir)	Severe Influenza					

Source: Adamas

FINANCIAL OVERVIEW

Expectations for ADS-5102 and the Namenda line extensions. Our model reflects a 2017 launch of ADS-5102 in the U.S. for LID, with estimated sales of $92 million for the product in 2018, the product's first full year on the market. We believe that sales could exceed $170 million at year 5 of the product's life (this is in LID only and does not reflect contribution from other indications). Our estimates reflect royalties on Namenda XR and the Namenda/Aricept combination product beginning in 2018 and 2020, respectively (i.e., five years post-launch for each product, per the agreement with FRX). We are modeling Namenda franchise sales of $1.1 billion in 2020, with royalties to ADMS of $112 million. We are assuming royalty rates of 4% for Namenda XR and 15% for Namenda XR/Aricept. For 2020, our model reflects Namenda XR sales of $449 million, with royalties of $18 million to ADMS, and Namenda XR/Aricept sales of $626 million, with royalties of $94 million to ADMS.

Margins and expenses. We are modeling gross margins of 80% in 2018. Given that ADS-5102 is an unencumbered asset (no major third party obligations), we would expect to see relatively high gross margins for the product. Our model reflects the build out of a U.S. commercial organization comprised of around 30-60 reps to support ADS-5102 in the U.S., targeting a limited physician audience of neurologists who write the lion's share of prescriptions for PD patients. SG&A expenses begin to ramp significantly ahead of the 2017 launch of ADS-5102, and reach $34 million in the launch year (compared to our estimate of $13 million for SG&A in 2014). We believe that steady-state SG&A as a percentage of ADS-5102 sales will likely settle to near 30%, and as ADS-5102 reach a more mature point in its life cycle, we could envision SG&A as a percentage of revenue declining to closer to 25%. Regarding R&D, our estimates in 2014 and beyond range from $20-$25 million, reflecting spend associated with expansion opportunities for ADS-5102 (including a fixed-dose combination of ADS-5102 and a yet-to-be-disclosed molecule).

We estimate that ADMS will achieve full-year profitability in 2018. We expect a significant bump in cash flows in 2020 as Adamas begins to earn royalties on Namenda XR/Aricept (i.e., a more attractive royalty rate compared to Namenda XR). Our diluted EPS estimate in 2020 is $5.28.

Balance sheet: no need for ADMS to access additional dilutive capital given the milestone streams from FRX/ACT. With the addition of over $40 million in net proceeds from the April 2014 IPO, Adamas has over $120 million in cash and cash equivalents, bearing in mind that the company has already received significant payments from FRX related to its work on the Namenda line extensions. Given that ADMS could receive up to $30 million in additional milestone payments from FRX/ACT as Namenda XR/Aricept gains approval and enters the market, and given the already strong cash balance, we do not believe that ADMS will need to access additional dilutive capital in order to have enough cash to get to profitability. This is also bearing in mind that the cost of the ADS-5102 late-stage programs are not particularly onerous (these need not be very large studies).

Exhibit 5

SUMMARY OF PJC ESTIMATES FOR ADMS

$ in millions, except per share	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Revenue								
ADS-5102 Net Sales	$0.0	$0.0	$0.0	$48.5	$91.8	$129.8	$149.8	$170.2
Namenda royalties	$0.0	$0.0	$0.0	$0.0	$16.7	$17.3	$111.8	$116.2
Milestone Payments	$70.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total revenue	**$70.0**	**$0.0**	**$0.0**	**$48.5**	**$108.6**	**$147.1**	**$261.6**	**$286.4**
Expenses								
COGS	$0.0	$0.0	$0.0	$9.7	$18.4	$23.4	$27.0	$30.6
R&D	$19.4	$21.9	$24.1	$22.9	$23.5	$22.9	$22.3	$21.7
SG&A	$12.4	$13.8	$19.0	$34.0	$38.6	$42.8	$46.4	$47.7
Operating income	$38.2	($35.7)	($43.1)	($18.0)	$28.2	$58.1	$165.9	$186.4
Net Income	$38.2	($35.7)	($43.1)	($18.0)	$28.2	$58.1	$165.9	$167.7
Share Outstanding, diluted	15.9	17.6	18.9	19.9	28.9	30.2	31.4	32.7
Non-GAAP EPS, diluted	**$2.41**	**($2.03)**	**($2.28)**	**($0.90)**	**$0.97**	**$1.92**	**$5.28**	**$5.13**

Source: Company reports and PJC Research

COMPANY BACKGROUND

Adamas Pharmaceuticals is an emerging specialty pharmaceutical company focused on creating next-generation treatments for central nervous system (CNS) disorders. The company is leveraging its formulation and PK expertise to improve upon the pharmacokinetic profiles of both approved drugs and approved drugs as components of fixed-dose combinations, bearing in mind that there are numerous older pharmaceutical products used for CNS diseases that are beset by tolerability and efficacy limitations due to suboptimal PK profiles. Adamas' internal pipeline is focused on the molecule amantadine, with the company advancing its extended-release form of the product into late-stage development in the Parkinson's setting. We believe that ADMS' formulation and PK expertise has already been validated given that FRX tapped the company in November 2012 to work on line extensions for its blockbuster Namenda franchise for Alzheimer's.

ADS-5102: PARKINSON'S IS JUST THE BEGINNING

An Exciting, Relatively Low-Risk Shot-on-Goal in PD

Parkinson's Disease In Brief

Parkinson's disease (PD) is a progressive neurological disorder resulting from the death of a specific group of brain cells that generate the neurotransmitter dopamine. The hallmark symptoms associated with the disease are associated with a reduction in the synthesis of dopamine in a part of the brain known as the substantial nigra. Dopamine has a number of key functions in the brain, but this particular dopaminergic pathway in the brain is directly responsible for facilitating movement, hence the presence of impaired ambulation as a hallmark of the disease. As such, it is intuitive that the backbone of PD therapy is dopamine replacement.

PD is the second most common neurodegenerative disorder after Alzheimer's disease. According to the National Parkinson Foundation, about one million people in the United States and from four to six million people worldwide suffer from the disease. Parkinson's disease is more common in people over 60 years of age and the prevalence of this disease is expected to increase significantly as the population ages. However, because it begins slowly and with such subtle symptoms, it is greatly under-recognized and the diagnosis is often missed until late in the disease when it can cause considerable disability. The main symptoms of Parkinson's disease include tremor, muscle rigidity, and bradykinesia, which is defined as slow movement and reflexes. Other symptoms of Parkinson's include difficulties with balance, difficulty with eating and swallowing, speech problems, and GI difficulties (namely constipation since muscle movement is slow).

Levodopa/Carbidopa A Backbone Therapy, but Beset by Limitations

Levodopa has been available since the early 1970s and has been a mainstay therapy for Parkinson's patients. Dopamine itself cannot be administered to patients because it does not cross the blood-brain barrier (BBB). Levodopa, however, is a precursor to dopamine that does cross the BBB and is metabolized into dopamine once it enters the CNS. Levodopa is almost always given in combination with carbidopa, which blocks the metabolism of levodopa into dopamine outside the CNS. Peripheral metabolism of levodopa into dopamine causes a range of side effects, including nausea and vomiting, psychiatric disturbances, and orthostatic hypotension. Carbidopa works by inhibiting an enzyme known as aromatic-L-amino-acid decarboxylase (referred to as dopa decarboxylase or DDC), which is involved in the conversion of levodopa to dopamine. Since carbidopa does not cross the BBB, it only inhibits dopamine synthesis outside the CNS, limiting unwanted side effects, while allowing levodopa to act unimpeded within the CNS. The combination pill of levodopa and carbidopa is available in several doses as a generic. The brand name of levodopa/carbidopa is known as Sinemet. We estimate that annual sales of all levodopa/carbidopa-based therapies are roughly $200 million annually, with close to 5 million prescriptions written for levodopa/carbidopa per year.

Despite the widespread use of levodopa/carbidopa therapy, the regimen has significant limitations, which we highlight below:

- **On/off effect.** One of the biggest limitations of levodopa/carbidopa therapy is that, over time, periods of symptom relief following a dose become shorter and shorter, referred to as the "on" and "off" effect (more on these terms and their significance below). The general consensus among neurologists treating patients with Parkinson's disease is that therapy is effective for roughly 2-5 years, but on/off effects start to become pronounced beyond this period. When a patient takes a dose of levodopa/carbidopa, full ambulation generally returns, and patients may sometimes experience dyskinesias (i.e., "hyper-movement"; more on this below). As blood levels of levodopa/carbidopa fall, impairment of mobility returns with the off period generally resembling untreated disease.

- **Augmentation.** Another major limitation of levodopa/carbidopa therapy is augmentation, which is characterized by a worsening of symptoms at a given dose and typically requires escalating doses to maintain a therapeutic effect. Patients often need adjunctive treatment with a dopamine agonist when augmentation occurs.

- **Dyskinesias.** Dyskinesias are characterized by involuntary movements and impaired voluntary movements. Dyskinesias can range from minor tics to major spasticity-like movements. Dyskinesias are a common side effect of levodopa/carbidopa and are more common in patients who have been on therapy for a number of years. Dyskinesias are often seen when peak plasma concentrations are at their peak.

Exhibit 6

SELECTED AVAILABLE TREATMENTS FOR PARKINSON'S DISEASE

	Azilect	Eldepryl	Mirapex	Parlodel	Requip	Sinemet	Stalevo
Generic Name	rasagiline	selegiline	pramipexole	bromocriptine	ropinirole	carbidopa/ levodopa	carbidopa/ levodopa/ entacapone
Company	Teva	generic	Boehringer Ingleheim	generic	generic	generic	Novartis/ Orion
Drug description	MAO-B inhibitor	MAO-B inhibitor	dopamine agonist	dopamine agonist	dopamine agonist	dopamine precursor/ DDC inhibitor	dopamine precursor/ DDC inhibitor/ COMT inhibitor
FDA approval	May-06	May-96	Jul-97	Jun-78	Sep-97	May-75	Jun-03
Key patent expiry	Sept-2016 (1)	expired	expired	expired	expired	expired	expired
Uses	monotherapy in early PD; adjunct to LD/CD	adjunct to LD/CD	adjunct to LD/CD or mono Rx	adjunct to LD/CD when tolerance develops	monotherapy; adjunct to LD/CD or mono Rx	backbone Rx in advanced PD; also used front-line	adjunct to LD/CD-based therapy
Last 12 months TRx	450,000	130,000	3.3M (2)	230,000	5.5M (2)	4.8M	255,000
Treatment regimen	0.5 to 1 mg QD	5 mg BID	up to 1.5 mg TID	2.5 to 15 mg QD	up to 1 mg TID	4-6 times daily on average	4-6 times daily on average
Advantages	strong tolerability profile; more selective for MAO-B than Eldepryl	different mechanism; readily combined with LD/CD or DA agonists	better tolerability than LD/CD	better tolerability than LD/CD	better tolerability than LD/CD	most direct method to replace dopamine; clear efficacy profile	entacapone allows more L-dopa to reach CNS
Limitations	label still has language on dietary restrictions	diet restrictions since not selective for MAO-B at higher doses	less of impact on dopamine versus LD/CD; not as useful in advanced PD	ergoline derivative, more risk of psychiatric side effects	less of impact on dopamine versus LD/CD; not as useful in advanced PD	on/off effects; frequent daily dosing; augmentation	addition of entacapone only reduces off time by 45-60 minutes

(1) Additional patents related to the enantiomer and use of the drug in Parkinson's and other CNS disorders expire in 2017 and 2026

(2) Both Mirapex and Requip are also approved for restless legs syndrome (RLS). A majority of Rx's for these drugs are in RLS.

Source: Company reports, industry reports

What exactly is levodopa-induced dyskinesia (LID)?

The development of dyskinesias is thought to be associated with several factors: the earlier age at onset of PD, the longer duration of PD, the longer duration of treatment with levodopa therapies, total exposure to levodopa, gender (higher rates of dyskinesias have been observed in women), and possibly genetic factors. It is well known that dyskinesias appear after treatment with levodopa and there is often a time lag between the start of treatment and the emergence of LID.

LID can impact at least 30% of patients on levodopa/carbidopa. Levodopa is no doubt the standard-of-care treatment for motor issues related to PD, but its prolonged use can lead to LID, which is thought to affect around 30% of patients taking the drug and is associated with involuntary muscle movements of the arms, legs, head, or trunk. According to Adamas, there were roughly 515,000 patients in the U.S. treated with levodopa in 2011, 257,000 of which experience some form motor complications or LID. Of that population, around 144,000 experience complex motor fluctuations or LID.

Levodopa has been well known to provide at least partial relief for patients from PD symptoms but does not slow the progression of the disease. Patients treated with levodopa therapies are dosed multiple times a day and ideally experience symptom relief throughout most of the day. The period of time in which a patient's PD symptoms are well managed is referred to as "on" time. Over the course of the day, the effects of levodopa wear off and symptoms return. This period of time in which a patient's PD symptoms are not well managed is referred to as "off" time. Since levodopa treatment does not slow the progression of the disease, a PD patient's dopaminergic neurons are likely to further degenerate over time, thus increasing the severity and frequency of PD symptoms. As the disease progresses, most patients require increased doses of levodopa to manage their symptoms. It is usually at this time that many patients begun to suffer from LID. As these patients are treated with higher doses of levodopa, periods of symptom relief ("on" time) are usually accompanied by dyskinesia, often of the troublesome variety (troublesome dyskinesia refers to dyskinesia that interferes with the patient's daily function or causes meaningful discomfort). LID patients often experience troublesome dyskinesia even during periods where their PD symptoms are not well controlled by levodopa treatments ("off" time).

Current strategies to manage LID are often inadequate. One logical way to manage LID is to lower the doses of levodopa administered to the patient, however this is likely to increase the amount of "off" time. There currently is no approved pharmacological treatment for LID in the U.S. or Europe. That said, adjunctive therapies for PD are often used not only to reduce "off" times but also to increase "on" times without troublesome dyskinesias. These adjunctive agents include Teva's Azilect, the dopamine agonists Mirapex ER and Requip XL, and the COMT inhibitor entacapone (trade name is Comtan). While these alternative agents have been shown to produce a clinically significant reduction in "off" time, they have not been shown to produce significant reductions in "on" time without troublesome LID.

IR amantadine has seen usage for LID, but AE, particularly psychiatric AE's, are problematic. The immediate-release form of amantadine is often prescribed off-label in combination with levodopa for LID (amantadine is approved for the symptomatic treatment of PD). The use of the drug stems from a number of investigator led studies which showed that amantadine could be an effective treatment for LID. However, these studies were not large-scale or well-controlled. The drug is currently marketed in an immediate-release, 100 mg formulation. The challenge with the IR product is that in order

to achieve a significant reduction in LID, higher doses are needed. That said, doses above 200 mg per day are associated with troublesome adverse events including, psychiatric adverse events such as hallucinations and vivid dreams. Immediate-release amantadine is absorbed by the body rapidly, with a Cmax (maximum concentration in the blood stream) achieved in as little as two hours. It has been thought that this rapid absorption leads to a relatively elevated incidence of CNS-related side effects.

The ADS-5102 Solution

Adamas is currently developing a proprietary, extended-release formulation of amantadine (known as ADS-5102) for multiple indications, with the most advanced opportunity being LID (more on additional indications below). ADMS selected the compound based on its discovery that the relatively unfavorable side effect profile of IR amantadine is not primarily caused by the levels of the drug in the bloodstream, but rather the pace of which the drug Cmax is reached. This is bearing in mind that IR amantadine is rapidly absorbed by the body with a Cmax of around 2-4 hours. Adamas believes that its extended-release formulation can allow the company to provide a higher dose of amantadine that will result in a slow ramp in plasma concentrations towards peak levels during the day (when LID can be the most severe) followed by low concentrations at night, leading to fewer negative side effects. During early clinical studies, ADMS tested ADS-5102 at dosage strengths ranging from 1.3 to 2.1 times the standard 100 mg twice-daily dose for IR amantadine. Based on results from the recently completed Phase II/III study (more on this below), ADMS has selected the 340 mg dose to advance to later stage development. This dose is 1.7x the standard IR amantadine dosage schedule.

Impressive Phase II/III Data Sets Stage for Pivotal Phase III Study

In September 2011, ADMS initiate a Phase II/III study evaluating ADS-5102 for LID in patients with PD. The study, named Extended Release Amantadine Safety and Efficacy Study in Levodopa-induced Dyskinesia (EASED) enrolled 83 patients who were separated into four treatment groups (randomized 1:1:1:1) and treated with a placebo or 260 mg, 340 mg, or 420 mg dosages of ADS-5102 for 8 weeks. The primary endpoint of the study was reduction in LID as assessed by changes in the Unified Dyskinesia Rating Scale (UDysRS). Secondary endpoints included assessment of "on time" without troublesome dyskinesia and reduction in fatigue.

In June 2013, ADMS announced that ADS-5012 hit its primary endpoint with a statistically significant improvement seen in LID (as measured by the change in the UysRS score) with both its 340 mg and 420 mg doses versus placebo. Though the 260 mg dose did not achieve statistical significance with a reduction in the UDysRS scale of 5.6 ($p=0.159$), the 340 mg treatment arm saw a reduction of 11 points ($p=0.005$) and the 420 mg dose resulted in a 10 point reduction ($p=0.013$). Additionally, ADS-5102 demonstrated statistically significant functional improvement based on the MDS-Unified Parkinson's Disease Rating Scale (MDS-UPDRS), which is a scale used to measure how the patient's daily functionality (i.e., social interactions) is affected by dyskinesia. At the selected 340 mg dosage strength (i.e. the dose ADMS will further evaluating in a Phase III program; more on this below), ADS-5102 showed a 3.0 hour increase in "on" time without troublesome dyskinesia, a 43% reduction in troublesome LID compared to baseline, a reduction in the functional impact of LID, and a trend towards reduction in 'off" time. This is impressive in our view given that other add-on therapies either on the market or in development have not done as well (e.g. TEVA's Azilect has about an hour benefit). With regards to safety, treatment emergent adverse events (AEs) were mostly mild to moderate in severity. There were 14 discontinuations

from the treatment arms related to AEs and two discontinuations in the placebo arm related to non-study drug-related reasons.

Exhibit 7

ADS-5102 PHASE 2/3 EFFICACY DATA

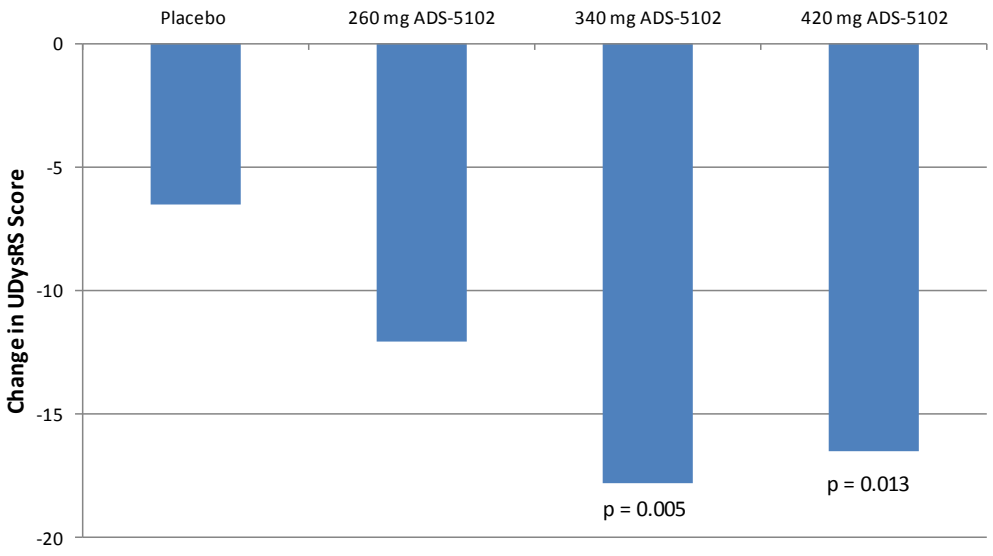
Outcome Measure (difference versus placebo)	260 mg ADS-5102 N=19	p-value	340 mg ADS-5102 N=20	p-value	420 mg ADS-5102 N=19	p-value
UDysRS total Score	-5.6	0.159	-11.3	0.005	-10.0	0.013
"On" Time w/o Troublesome LID, hours	3.3	0.004	3.0	0.008	2.7	0.018
"Off" Time, hours	-1.3	0.074	-0.9	0.199	0.1	0.934
MDS-UPDRS (Part I,II,III)	1.2	0.786	-2.2	0.636	1.7	0.705
MDS-UPDRS (Part IV), functional impact of dyskinesia	-0.8	0.014	-1.0	0.002	-1.3	<0.001

Abbreviations: ***UDysRS*** *Unified Dyskinesia Rating Scale*

Source: Company reports

Exhibit 8

CHANGE IN UDYSRS SCORE VERSUS BASELINE



Source: Adamas

Following a December 2013 meeting with the FDA, ADMS solidified its plans to conduct a Phase III efficacy and safety study, in addition to bioavailability studies (and the company believes these additional studies will be all it needs to support an NDA filing, bearing in mind that the filing will be via the 505(b)(2) pathway). The Phase III study will be a randomized, double-blind, placebo-controlled study evaluating the efficacy and safety of the 340 mg dose of ADS-5102 given once-nightly in patients with LID associated with PD. The study is expected to initiate later this year, pointing to the potential for top-line data sometime in 2015 and an NDA filing in early 2016.

Numerous Potential Expansion Opportunities for ADS-5102

ADS-5102 for Traumatic Brain Injury An Intriguing Expansion Opportunity

Adamas is also developing ADS-5102 for the treatment of irritability and aggression associated with acute traumatic brain injury (TBI). In March 2013, the company presented statistically significant positive results from a pre-clinical study of amantadine in TBI in rats. The study showed significant improvements in the inhibition of neuronal cell death and cognitive performance, which the company believes supports the further evaluation of the product in this indication.

Further supporting the program is results from a recently completed, independent, investigator-led, placebo controlled study showing that IR amantadine has the potential to reduce irritability and aggression in TBI patients. The study enrolled 76 patients who were randomized to receive 100 mg of IR amantadine BID or placebo. Patients receiving amantadine in the study showed a roughly 40% reduction of irritability and aggression as compared to patients receiving placebo. The independent study was conducted by Dr. Flora Hammond at the Indiana University School of Medicine. ADMS expects results from a second independent study conducted by Dr. Hammond to be available by the end of 1H14. ADMS has yet to disclose its next steps in the development of ADS-5102 for TBI.

Available literature suggests that there are approximately 3.2 million people living with a disability following a hospitalization with TBI in the U.S. and there are currently no drugs approved for the treatment of symptoms of TBI so this could prove to be a substantial opportunity. That said, given that the development in this indication remains in early stages, we are conservatively not factoring in any revenues from this opportunity in our model.

Wide Range of Additional Opportunities for ADS-5102; A Fixed-Dose Combo With an Undisclosed Molecule Also in the Works

Other indications outside of LID and TBI that ADMS has suggested it is exploring for ADS-5102 include post-concussive syndrome, multiple sclerosis fatigue, and hyperkinetic movement disorders, among others. Following the evaluation of early data in one or more of these potential indications, ADMS believes it will be able to advance potential new programs for ADS-5102 directly into Phase II/III studies.

Further, ADMS has stated that it exploring the development of ADS-5102 in combination with other agents. Management has suggested that it is aiming to develop a fixed-dose combination of ADS-5102 and an undisclosed molecule, and we should hear more about the progress of this program over the next 1-2 years.

Our Thoughts on the Sales Potential for ADS-5102

We estimate that ADS-5102 will become commercially available in the U.S. for LID in patients with PD in early 2017, with 2018 sales totaling $92 million, and growing to $212 million by 2023. We assume ADMS launches the product in the U.S. without a commercial partner, deploying a sales force of 30-60 reps targeting high prescribing neurologist focused on the treatment of patients with advanced PD (ADMS estimates that 4,000 neurologists write roughly 60% of Rx's written for late stage PD patients). Though Adamas is seeking to commercialize ADS-5102 on its own in the U.S., the company has expressed an interest in finding a partner for commercialization outside of the U.S. However, given the exploration of a partnership is still in its earlier stages, our model does not reflect ex-U.S. contribution from the product.

Below we provide additional color on the assumptions underlying our estimates for ADS-5102:

- **Broader PD market.** Per IMS, there were nearly 5 million total prescriptions (Rx's) for levodopa/carbidopa therapies (this includes brand Sinemet (the trade name for levodopa/carbidopa), Sinemet CR, Stalevo (which is a combination of Sinemet and the COMT inhibitor entacapone) and generic equivalents; the vast majority of Rx's are for generics) in the U.S. in 2013. We estimate that total Rx's for these therapies grow at a 1% annual rate over the next 10 years. Our growth assumptions for this market do include the impact of an extended-release version(s) levodopa/carbidopa (namely Impax's Rytary, which could launch in 2015) over the next few years.

- **Market share: high volumes not necessarily needed to drive meaningful sales.** We base our market share assumptions for ADS-5102 on the total number of Rx's written for levodopa/carbidopa therapies (as described above), a logical assumption in our view given this market serves the lion share of the patient population for which treatment with ADS-5102 will be suitable (given a label indicated for LID in patients with PD). Our thinking here is that all advanced PD patients will be on levodopa/carbidopa, and some portion of these patients will need some adjunctive relief.

  We estimate that ADS-5102 Rx's 2018 will amount to a quantity that is 5% of total levodopa/carbidopa retail volumes in 2018, the product's first full year of availability, growing to 10% in 2022. We note this is a relatively modest percentage of the total Rx's written for levodopa/carbidopa therapies, which reflects usage of ADS-5102 later on in the treatment life of a PD patient (i.e., after a few years of treatment with levodopa/carbidopa when LID can begin).

- **Pricing: still see reasonably strong pricing power despite the availability of generics on IR amantadine.** IR versions of amantadine have been available as generics for a number of years. One would think that the product is essentially commoditized, but that is not actually the case here. According to third party data sources, there are roughly 10 IR amantadine entrants on the market. The wholesaler average cost (WAC) of a 100 mg dose of the product is around $1.62 per pill, per Wolters Kluwer PriceRx. With daily doses as high as 400 mg, the daily pill burden for IR amantadine could be as high as 4 pills per day, translating into a cost per day as high as $6.50 for a generic.

Even with the availability of generics (albeit not commodity-priced generics) of IR amantadine, we would not view pricing of ADS-5102 as constrained by this market dynamic. We would keep in mind that given that PD is a serious disease, relatively data-driven (i.e., new clinical data matters to neurologists and to managed care) and the overall cost of pharmacologic management to the healthcare system is not high (levodopa/carbidopa accounts for the vast majority of volumes and is a legitimately inexpensive generic). In that context, this is not a tightly managed disease setting from a payor perspective, and therefore new agents with strong data, even to the extent they are not novel molecular entities like ADS-5102, should be able to enjoy reasonably strong pricing power. Further, we note that other brand adjunctive therapies in the PD space such as Azilect and Stalevo have cost up to $16 per day. As such, we are confident that the pricing that we are assuming in our model (an initial daily cost of $15 for ADS-5102, translating into a monthly cost of $450) will not run afoul of managed care.

- **Exclusivity assumptions: not your garden variety formulation IP that potential generics can simply engineer around.** We expect that ADS-5102 will have three years of new formulation exclusivity per Hatch-Waxman. Given that ADMS holds intellectual property (IP) on the compound and given the complexities surrounding controlled-release drug delivery technologies, we believe there is a reasonable chance that the asset will be durable over the long-term. With regards to the IP, ADMS announced the issuance of a U.S patent for ADS-5102 (8,389,578) entitled "composition and method for treatment of neurological disease" that is set to expire in July 2027. The claims of this patent cover the improved methods of treating Parkinson's in addition to covering the drug's dosage strength and pharmacokinetic profile. On the latter claims regarding PK, potential generics will have to win their case on invalidity, a tougher hurdle in our view versus more conventional formulation-related IP that the generics can engineer around.

Exhibit 9

ADS-5102 SALES PROJECTIONS

(Sales $ in millions)	2014E	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E
Levodopa/Carbidopa TRx	4,690,189	4,737,091	4,784,462	4,832,306	4,880,629	4,929,436	4,978,730	5,028,517	5,078,802	5,129,591
Sinemet CR TRx	6,681	6,614	6,548	6,483	6,418	6,354	6,290	6,227	6,165	6,103
Sinemet TRx	16,605	16,439	16,275	16,112	15,951	15,791	15,633	15,477	15,322	15,169
Total levodopa/carbidopa TRx	4,713,475	4,760,144	4,807,285	4,854,901	4,902,998	4,951,581	5,000,654	5,050,222	5,100,290	5,150,863
ADS-5102 TRx share (combined levodopa/carbidopa TRx	0.0%	0.0%	0.0%	2.5%	5.0%	7.0%	8.0%	9.0%	10.0%	11.0%
ADS-5102 Retail TRx				121,373	245,150	346,611	400,052	454,520	510,029	566,595
% non-retail				1%	1%	1%	1%	1%	1%	1%
ADS-5102 TRx				122,586	247,601	350,077	404,053	459,065	515,129	572,261
Average cost per day (WAC)				$15.00	$15.00	$15.00	$15.00	$15.00	$15.00	$15.00
Average monthly cost per Rx				$450.0	$450.0	$450.0	$450.0	$450.0	$450.0	$450.0
Discounts/rebates				*20%*	*20%*	*20%*	*20%*	*20%*	*20%*	*20%*
Stocking				*10%*	*3%*	*3%*	*3%*	*3%*	*3%*	*3%*
Net cost per Rx				*$396.0*	*$370.8*	*$370.8*	*$370.8*	*$370.8*	*$370.8*	*$370.8*
ADS-5102 U.S. Sales	**$0.0**	**$0.0**	**$0.0**	**$48.5**	**$91.8**	**$129.8**	**$149.8**	**$170.2**	**$191.0**	**$212.2**

Source: Company reports, Industry reports, IMS Health, PriceRx and PJC estimates

NAMENDA LINE EXTENSIONS: A MAJOR VALIDATOR OF ADAMAS' EXPERTISE; COMPELLING ROYALTY STREAMS

Adamas is entitled to receive milestone payments and royalties related to the two line extensions on Namenda. Forest owns the rights to both products. Regarding MDX-8704, Forest and Adamas entered into a development and licensing agreement in November 2012. FRX made an upfront payment of $65 million to ADMS upon signing, and further made two payments to ADMS of $20 million related to certain development milestones. ADMS also received $25 million upon FDA acceptance of the NDA filing for MDX-8704 and is entitled to receive another $30 million upon FDA approval. ADMS is entitled to receive royalties on Namenda XR and MDX-8704 five years post-launch of each product. The Namenda XR royalty will be in the low-to-mid single digits, and the MDX-8704 royalty will be in the low-to-mid teens.

Alzheimer's Disease and the Treatment Paradigm, In Brief

Alzheimer's disease dementia is a progressive neurodegenerative condition. The only agents approved for the management of Alzheimer's (and there are none that are yet available which modify the course of the disease) include Namenda (memantine), Pfizer's Aricept (donepezil), Novartis' Exelon, and J&J's Razadyne. Of these agents, only Namenda and Aricept are approved for symptoms associated with moderate-to-severe cases. Other than Namenda, the approved agents are known as cholinesterase inhibitors, which prevent the degradation of acetylcholine, a neurotransmitter believed to play a role in cognition. In contrast, Namenda works by limiting the activity of NMDA glutamate receptors, thereby inhibiting the activity of glutamate, too much of which can result in neuronal damage. As noted above, treatment options for Alzheimer's limited, meaning that most patients progressing to more severe disease will at some point get treated with Namenda. As such, Namenda has over time become a blockbuster product, with U.S. sales of over $1.6 billion in Forest's FY 2014.

The IR formulation of memantine was approved by the FDA in 2003 and is currently marketed by Forest Labs (FRX; soon to be a part of Actavis). Given that many Alzheimer's patients are in assisted living facilities and nursing homes, it is intuitive that a significant portion of Namenda volumes are non-retail (FRX has estimated that around one-third of Namenda volumes are non-retail). In 2012, the last full year before the launch of Namenda XR, there were roughly 8.3 million retail Rx's written for Namenda IR, and inclusive of the non-retail component, we estimate that a total of over 11 Rx's were written for the product. We note that annual retail Rx growth over the past five years has ranged from 0% to 7%, and we would expect to see continued growth of memantine, broadly speaking, given the obvious element of aging demographics in the U.S.

Namenda Line Extensions a Powerful One-Two Punch

The "Hard Switch" to Namenda XR is On the Way

In 2010, the FDA approved FRX's controlled-release formulation of memantine, Namenda XR, for the treatment of moderate-to-severe dementia related to Alzheimer's disease. The product is a 28 mg pill that is dosed once per day, compared to twice-daily dosing for Namenda IR (which comes in pill strengths of 5 mg and 10 mg). In June 2013, FRX began marketing Namenda XR. Per the most recent weekly IMS data, Namenda XR total Rx's currently account for 23% of the entire memantine market. Forest most recently reported

1Q14 Namenda IR and Namenda XR sales of $379 million, and $73 million, respectively. We estimate that calendar year 2014 sales of the Namenda franchise sales will be $1.4 million, split 35%/65% between the IR and XR products.

Exhibit 10

NAMENDA FRANCHISE PRESCRIPTION DATA

Date	Namenda IR TRx	Weekly % Growth	Namenda IR NRx	Weekly % Growth	Namenda XR TRx	Weekly % Growth	Namenda XR NRx	Weekly % Growth	IR/XR TRx Switch rate
4/18/2014	131,088	-2.2%	33,457	-3.5%	38,564	3.0%	13,885	-3.0%	22.7%
4/11/2014	134,074	-3.3%	34,665	-2.7%	37,453	2.7%	14,309	4.4%	21.8%
4/4/2014	138,668	2.5%	35,609	1.9%	36,466	6.0%	13,700	5.0%	20.8%
3/28/2014	135,292	-1.8%	34,945	-2.6%	34,415	4.8%	13,048	5.2%	20.3%
3/21/2014	137,788	-1.5%	35,874	-1.1%	32,851	5.6%	12,402	8.0%	19.3%
3/14/2014	139,820	-5.7%	36,281	-5.9%	31,113	2.9%	11,485	5.8%	18.2%
3/7/2014	148,250	3.3%	38,571	1.3%	30,240	4.8%	10,853	5.4%	16.9%
2/28/2014	143,500	-0.6%	38,068	0.0%	28,857	8.4%	10,301	18.4%	16.7%
2/21/2014	144,297	0.3%	38,062	-0.5%	26,609	3.3%	8,699	2.8%	15.6%
2/14/2014	143,805	-5.5%	38,266	-5.2%	25,754	1.0%	8,461	0.3%	15.2%
2/7/2014	152,162	4.6%	40,356	5.1%	25,506	6.0%	8,437	4.8%	14.4%
1/31/2014	145,486	1.2%	38,380	0.0%	24,052	4.2%	8,054	-0.9%	14.2%
1/24/2014	143,808	-4.5%	38,379	-7.0%	23,083	-0.7%	8,128	0.1%	13.8%
1/17/2014	150,556	-3.3%	41,272	-2.7%	23,244	3.0%	8,121	3.1%	13.4%
1/10/2014	155,748	2.0%	42,411	16.3%	22,557	8.3%	7,876	32.0%	12.7%
1/3/2014	152,762	12.8%	36,476	14.5%	20,827	14.9%	5,965	26.5%	12.0%
12/27/2013	135,470	-10.8%	31,845	-19.8%	18,122	-12.7%	4,716	-31.9%	11.8%
12/20/2013	151,795	0.1%	39,716	1.0%	20,764	3.8%	6,923	4.0%	12.0%
12/13/2013	151,619	-5.6%	39,331	-5.4%	20,010	-4.2%	6,654	-3.8%	11.7%
12/6/2013	160,696	14.2%	41,587	23.5%	20,881	16.9%	6,920	25.0%	11.5%
11/29/2013	140,761	-8.3%	33,684	-16.1%	17,866	-8.3%	5,537	-19.3%	11.3%
11/22/2013	153,447	0.6%	40,135	2.5%	19,477	5.6%	6,861	1.7%	11.3%
11/15/2013	152,582	-2.6%	39,170	-2.6%	18,448	0.8%	6,749	-4.0%	10.8%
11/8/2013	156,729	1.6%	40,197	2.0%	18,301	-0.2%	7,030	2.0%	10.5%
11/1/2013	154,235	0.4%	39,400	-0.5%	18,346	1.0%	6,894	-5.0%	10.6%
10/25/2013	153,666	-0.4%	39,587	-0.9%	18,159	7.0%	7,257	3.4%	10.6%
10/18/2013	154,344	-2.0%	39,939	-2.0%	16,970	-5.0%	7,021	-9.2%	9.9%
10/11/2013	157,468	-1.7%	40,744	-0.1%	17,867	8.6%	7,736	-1.3%	10.2%
10/4/2013	160,245	1.6%	40,781	4.1%	16,451	9.7%	7,834	-1.4%	9.3%
9/27/2013	157,693	-1.3%	39,177	-2.0%	14,997	12.5%	7,942	0.5%	8.7%
9/20/2013	159,829	-2.2%	39,974	-3.8%	13,336	21.6%	7,900	21.6%	7.7%
9/13/2013	163,497	0.5%	41,562	7.1%	10,969	26.0%	6,498	27.6%	6.3%
9/6/2013	162,739	-0.6%	38,816	-6.3%	8,704	2.1%	5,094	-14.1%	5.1%
8/30/2013	163,801	-0.6%	41,408	0.4%	8,522	12.9%	5,927	4.8%	4.9%
8/23/2013	164,792	-0.4%	41,256	0.1%	7,548	46.8%	5,654	43.0%	4.4%
8/16/2013	165,526	-1.2%	41,230	0.5%	5,141	29.1%	3,955	27.3%	3.0%
8/9/2013	167,519	-1.3%	41,019	-2.2%	3,982	15.5%	3,106	9.2%	2.3%
8/2/2013	169,665	1.6%	41,954	0.6%	3,447	-0.7%	2,844	-7.2%	2.0%
7/26/2013	167,033	-0.8%	41,715	-0.2%	3,471	30.7%	3,064	23.3%	2.0%
7/19/2013	168,311	-2.2%	41,815	-3.2%	2,656	23.9%	2,486	21.9%	1.6%
7/12/2013	172,010	2.2%	43,212	8.4%	2,143	63.7%	2,040	60.5%	1.2%
7/5/2013	168,285	-0.8%	39,865	-8.2%	1,309	69.6%	1,271	65.7%	0.8%
6/28/2013	169,668	0.3%	43,434	-1.1%	772		767		0.5%
6/21/2013	169,150	-0.6%	43,927	1.2%	337		337		0.2%
6/14/2013	170,112	-4.0%	43,423	-3.5%	18		17		
6/7/2013	177,275	7.1%	44,976	12.4%	1		1		
5/31/2013	165,587	-2.9%	40,029	-8.2%					
5/24/2013	170,591	0.4%	43,608	-0.4%					
5/17/2013	169,851	-1.8%	43,785	-0.7%					
5/10/2013	172,899	-1.3%	44,092	0.1%					
5/3/2013	175,135	1.9%	44,050	1.4%					
4/26/2013	171,923	1.0%	43,426	0.1%					
4/19/2013	170,227	-0.8%	43,391	-1.1%					
4/12/2013	171,613	-3.1%	43,889	-2.2%					
4/5/2013	177,103	3.8%	44,881	3.9%					

Source: IMS Health

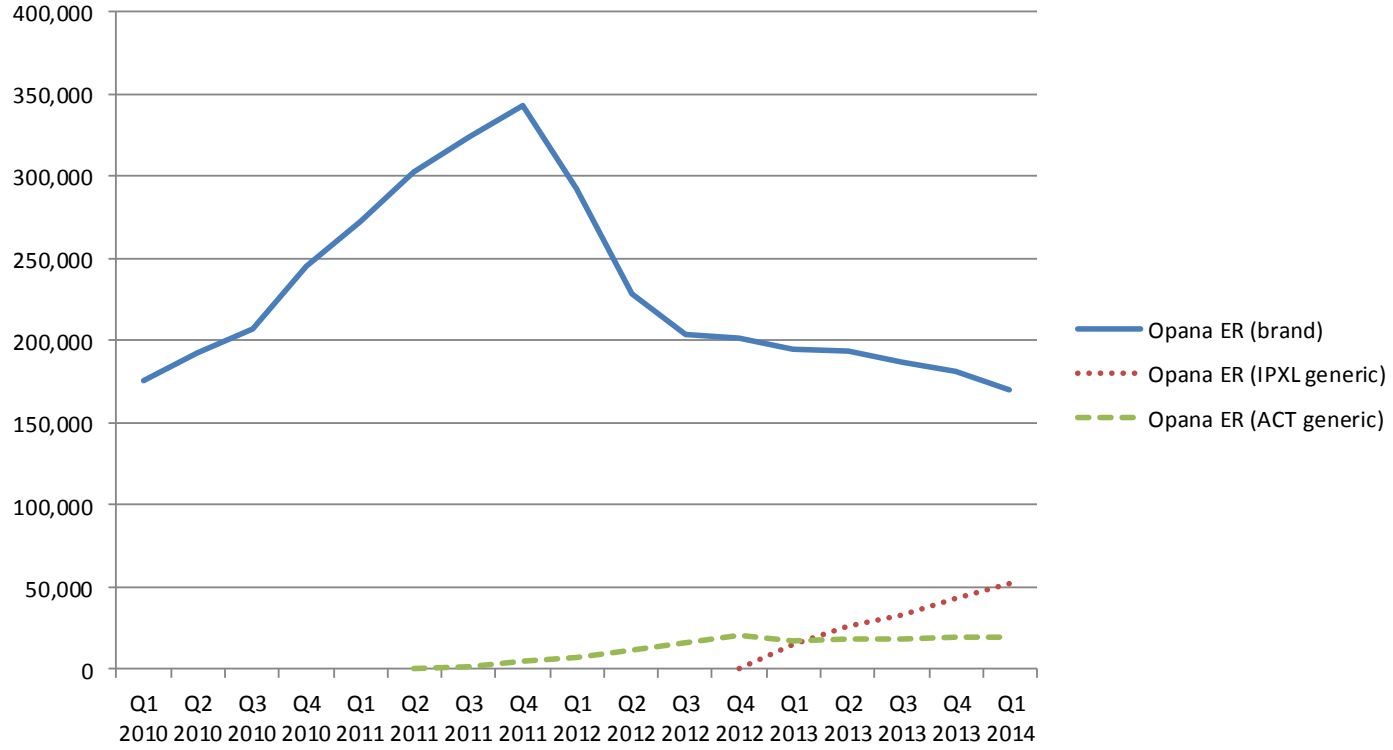
IR Namenda to be discontinued by FRX; generics for Namenda IR will enter the market in 2015, but timing during the year not yet clear. In February 2014, FRX announced plans to discontinue supplying the immediate-release formulation by August 2014 with the goal of switching over the market to Namenda XR ahead of generic launches, which are expected in calendar 2015. Generic filers can launch their own versions of Namenda IR in April 2015 (when the '703 patent listed in the Orange Book expires). That said, FRX is pursuing a potential 6-month pediatric extension on this patent, possibly pushing exclusivity on Namenda IR into the fall of 2015.

Would not expect to see generics of IR Namenda capture a large chunk of overall memantine volumes. Irrespective of the timing of the launch of Namenda IR generics in 2015, we do not believe that there will be a major erosion of the brand franchise given that Forest is likely to have already succeeded in effectuating a hard switch. We would keep in mind that generics of Namenda IR will not have the benefit of retail pharmacy substitutability. With the reference listed drug (RLD) no longer available (i.e., brand Namenda IR), a physician will have a write a prescription specifically for memantine at 5 mg or 10 mg. Any prescription that has Namenda written cannot be substituted. As such, generic entrants will likely have to engage in some light promotion of their products.

We have seen examples of generics launching into markets where the RLD is not available, and share of volumes tend to be limited. For instance, there are two commercially available generics (Impax, Actavis) on a form of Endo's opioid Opana ER that is no longer supplied to the market (i.e., Endo pulled this version from the market in early 2012 in order to switch patients to a tamper-deterrent formulation; the first generic on the old form launched in January 2013). After 16 months of availability of generics on the old form of Opana ER, these products have captured only 32% of overall volumes. FRX itself has noted that generics of the IR form of Namenda could capture anywhere from 5%-10% of volumes to as much as 30% of volumes. Given past precedent, we believe this is a reasonable expectation.

Exhibit 11

OPANA ER FRANCHISE RETAIL PRESCRIPTIONS



Source: Company reports, IMS Health, and PJC estimates

Though we could see some memantine-naïve patients starting on the generic IR form (particularly patients in institutional settings), to the extent that patients are already on Namenda XR or the FDC, we would not expect to see managed care forcing a switch back to the IR version. This is bearing in mind that FRX currently has secured unrestricted Medicare Part D access to Namenda XR encompassing over 80% of Medicare covered lives. Our confidence in the durability of the memantine franchise is only strengthened by the eventual availability of a second line extension, with FRX's looking to switch a significant chunk of Namenda XR to the fixed-dose combination of Namenda XR/Aricept once it becomes commercially available (bearing in mind that over 70% of memantine patients also take Aricept in combination; more on this below).

Namenda XR/Aricept Provides Added Durability for the Memantine Franchise

FRX filed the NDA on MDX-8704, a once-daily combination of Namenda XR and Aricept (donepezil) for moderate-to-severe dementia associated with Alzheimer's disease, in March 2013, and we are expecting FDA action by year-end 2014 or early 2015. The filing (submitted via 505(b)(2), includes data from additional clinical studies (conducted by FRX/ADMS) that demonstrate that MDX-8704 both is bioequivalent to separate doses of Namenda XR and donepezil, and has the same bioavailability when administrated after a meal, following a meal, or when sprinkled on apple sauce. Recall that Namenda works by limiting the activity of NMDA glutamate receptors, thereby inhibiting the activity of glutamate, too much of which can result in neuronal damage. Aricept mechanistically is

different since it works as an acetylcholinesterase inhibitor, preventing the degradation of acetylcholine. As such, it is intuitive that the two agents are more often than not used together, particularly considering the limited options available to Alzheimer's patients.

Well-established treatment paradigm for Aricept and Namenda. The vast majority of patients with mild-to-moderate Alzheimer's disease are started on Aricept. The main reason why Aricept has dominated as a first-line agent is that the drug has a strong tolerability profile relative to the other cholinesterase inhibitors with an efficacy profile at least as good. The perception among doctors is that a cholinesterase inhibitor, if it has any efficacy at all, will work for roughly three to six months before the patient begins to show further decline. Namenda has become the gold-standard treatment for patients in whom the cholinesterase inhibitors are no longer working (and given the lack of treatment options, it is either Namenda, an off-label use of an available drug, a clinical trial, or palliative care). The majority of patients have Namenda added to a cholinesterase inhibitor when response to monotherapy is inadequate (Forest has stated in the past that approximately 70% or more of Namenda usage is in combination with cholinesterase inhibitors).

Memantine Franchise Likely Durable Over the Long Haul

Adamas has an extensive patent portfolio that includes patents with claims related to pharmacokinetic profile of Namenda XR. The patents protect both line extensions and expire as late as 2029. It is important to note that ADMS has not only formulation-related IP, but also IP around the pharmacokinetic (PK) properties of its extended-release form of memantine (an example is patent #8,168,209). A paragraph IV (PIV) filer can engineer its generic around formulation IP (i.e., demonstrate non-infringement). A PIV however would need to demonstrate that IP with PK-related claims is invalid, a tougher hurdle for potential generics in our view (i.e., one cannot engineer around a PK claim). Given this backdrop, we believe that the memantine franchise (namely the line extensions) is durable. We would also note that Actavis' recent bid to acquire Forest Laboratories reinforces our confidence in the strength of Adamas' patent portfolio given that the future of the Namenda franchise was likely a large consideration in Actavis' offer (and ACT itself was a paragraph IV filer on Namenda XR).

Our Thoughts on the Royalty Potential for ADMS From the Memantine Franchise

Recall that via the ADMS/FRX agreement, ADMS will begin receiving royalty payments on net sales of Namenda XR and the Namenda XR/Aricept fixed-dose combination (if approved) after five years of the product's respective launches. We are currently modeling a low single-digit royalty (4%) on net sales of Namenda XR beginning in 2018 given the launch in June 2013 and a mid-teens royalty (15%) on net sales of the FDC beginning in 2020, which assumes a launch in early 2015. Below we provide additional color on the assumptions underlying our estimates for the Namenda franchise:

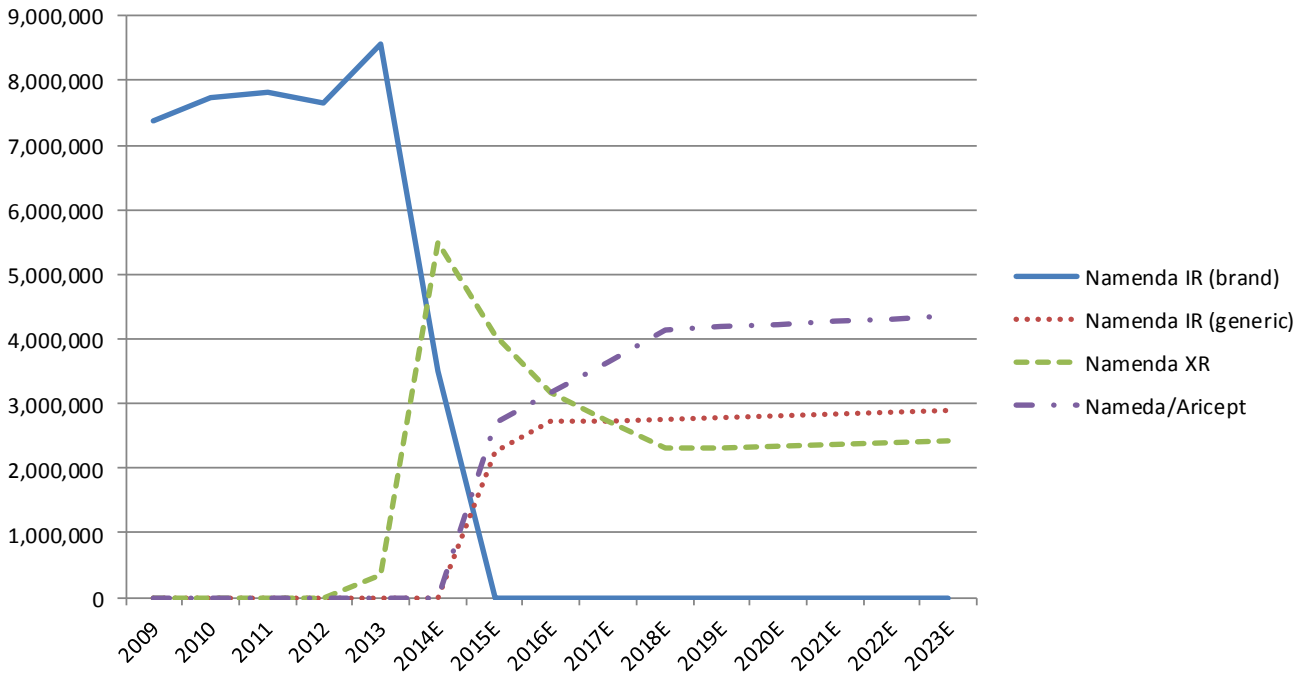
- **Broader memantine market.** We estimate the overall market for memantine, inclusive of all brands and eventual generics, will show consistent annual single digit volume growth (this is consistent with what we have seen for other AD therapies including Aricept, Exelon and Razadyne).

- **Market share and expectations for the Namenda IR/XR switch-over.** We are currently modeling that Namenda XR will capture over 75% of the overall memantine market by the time FRX discontinues the IR version. We estimate that FRX will be able to convert nearly all patients currently taking the IR formulation over to Namenda XR by the time generics on the IR launch in 2015. Assuming a timely approval, we believe that the Namenda XR/Aricept fixed-dose combination will capture 30%-35% of the overall memantine market during in its first full year of the launch (2015), climbing to 40% in 2017 and 45% in 2020. This is bearing in mind that a majority of memantine patients also take Aricept in combination.

- **Pricing.** Namenda IR currently is priced at an average monthly cost of around $285 (gross price per Rx), per Wolters Kluwer PriceRx. Namenda XR currently sells at an average monthly price per Rx that is a 5% discount to the IR. The rationale behind FRX pricing the XR version at a slight discount to the IR formulation was to help enable broader managed care access for the XR product. We assume that FRX deploys a similar strategy upon launch of the Namenda XR/Aricept fixed dose combination, in that it will price the product at a slight discount to the XR version. This is actually intuitive given that Aricept has been available as a generic since 2009 and is essentially a commodity at this point, meaning that FRX has nothing to gain by pricing the combination higher than Namenda XR (and it is a shrewd strategy to price the combination at a discount to Namenda XR in order to maximize the probability of broader Part D access).

Exhibit 12

NAMENDA FRANCHISE RETAIL PRESCRIPTIONS



Source: Company reports, IMS Health, and PJC estimates

Exhibit 13

NAMENDA FRANCHISE SALES PROJECTIONS

Adamas Calendar Year					CY2015E	CY2016E	CY2017E	CY2018E	CY2019E	CY2020E	CY2021E	CY2022E	CY2023E
FRX Fiscal Year (Sales $ in millions) [1]	FY2012A	FY2013A	FY2014E	FY2015E	FY2016E	FY2017E	FY2018E	FY2019E	FY2020E	FY2021E	FY2022E	FY2023E	FY2024E
U.S. Sales													
Aggregate TRx for Alzheimer's agents [2]	19,361,217	19,300,413	20,518,555	20,936,584	21,145,950	21,357,409	21,570,983	21,786,693	22,004,560	22,224,605	22,446,852	22,671,320	22,898,033
Namenda IR/XR retail TRx share	36%	41%	43%	43%	43%	43%	42%	42%	42%	42%	42%	42%	42%
Aggregate Namenda IR/XR (Brand & Generic) retail TRx	6,970,038	7,860,618	8,924,511	9,002,731	9,039,893	9,076,899	9,113,740	9,204,878	9,296,927	9,389,896	9,483,795	9,578,633	9,674,419
% Namenda IR (brand) TRx (total Namenda market)	111%	100%	93%	39%	0%	0%	0%	0%	0%	0%	0%	0%	0%
% Namenda IR (generic) TRx (total Namenda market)			0%	0%	25%	30%	30%	30%	30%	30%	30%	30%	30%
Namenda IR (Generic) TRx			*0*	*0*	*2,259,973*	*2,723,070*	*2,734,122*	*2,761,463*	*2,789,078*	*2,816,969*	*2,845,138*	*2,873,590*	*2,902,326*
Namenda IR													
Namenda IR (brand) retail TRx	7,731,471	7,860,618	8,269,448	3,494,902	0	0	0	0	0	0	0	0	0
% non-retail TRx	38%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Adjusted Namenda IR (brand) TRx	10,694,200	10,607,343	11,161,454	4,718,118	0	0	0	0	0	0	0	0	0
Average monthly TRx cost	$199	$235	$265	$273	$301	$331	$364	$400	$440	$484	$533	$586	$645
Discounts/stocking	35%	39%	49%	53%	55%	55%	55%	55%	55%	55%	55%	55%	55%
Adjusted average monthly TRx cost	$130	$143	$135	$128	$135	$149	$164	$180	$198	$218	$240	$264	$290
U.S. Namenda IR Sales to FRX/ACT	**$1,390.1**	**$1,520.8**	**$1,502.0**	**$611.7**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**
Namenda XR													
Namenda IR/XR (Brand & Generic) retail TRx	7,731,471	7,860,618	8,924,511	9,002,731	9,039,893	9,076,899	9,113,740	9,204,878	9,296,927	9,389,896	9,483,795	9,578,633	9,674,419
Namenda XR TRx switch rate (% of entire Namenda market)	0%	0%	7%	61%	45%	35%	30%	25%	25%	25%	25%	25%	25%
Namenda XR retail TRx	0	0	655,063	5,507,829	4,067,952	3,176,915	2,734,122	2,301,219	2,324,232	2,347,474	2,370,949	2,394,658	2,418,605
% non-retail TRx			13%	35%	35%	35%	35%	35%	35%	35%	35%	35%	35%
Adjusted Namenda XR TRx			781,446	7,435,569	5,491,735	4,288,835	3,691,065	3,106,646	3,137,713	3,169,090	3,200,781	3,232,789	3,265,116
Average monthly TRx cost			$252	$265	$278	$285	$292	$299	$307	$315	$322	$330	$339
Discounts/stocking			49%	54%	55%	55%	55%	55%	55%	55%	55%	55%	55%
Adjusted average monthly TRx cost			$130	$123	$125	$128	$131	$135	$138	$142	$145	$149	$152
U.S. Namenda XR Sales to FRX/ACT	**$0.0**	**$0.0**	**$116.8**	**$903.8**	**$687.1**	**$550.0**	**$485.2**	**$418.6**	**$433.3**	**$448.6**	**$464.4**	**$480.8**	**$497.7**
% Royalties to Adamas								*4%*	*4%*	*4%*	*4%*	*4%*	*4%*
U.S. Namenda XR Royalties to Adamas								**$16.7**	**$17.3**	**$17.9**	**$18.6**	**$19.2**	**$19.9**
Namenda XR/Aricept Fixed-Dose Combo													
Namenda IR (Brand & Generic) retail TRx	7,731,471	7,860,618	8,924,511	9,002,731	9,039,893	9,076,899	9,113,740	9,204,878	9,296,927	9,389,896	9,483,795	9,578,633	9,674,419
Namenda/Aricept TRx switch rate (% of entire Namenda market)	0%	0%	0%	0%	30%	35%	40%	45%	45%	45%	45%	45%	45%
Namenda/Aricept retail TRx	0	0	0	0	2,711,968	3,176,915	3,645,496	4,142,195	4,183,617	4,225,453	4,267,708	4,310,385	4,353,489
% non-retail TRx					35%	35%	35%	35%	35%	35%	35%	35%	35%
Adjusted Namenda/Aricept TRx					3,661,157	4,288,835	4,921,420	5,591,963	5,647,883	5,704,362	5,761,405	5,819,019	5,877,210
Average monthly TRx cost					$250	$263	$276	$290	$304	$313	$323	$332	$342
Discounts/stocking					55%	57%	60%	63%	65%	65%	65%	65%	65%
Adjusted average monthly TRx cost					$113	$113	$110	$107	$106	$110	$113	$116	$120
U.S. Namenda XR/Aricept Fixed-Dose Combo Sales to FRX/ACT	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$412.3**	**$484.5**	**$543.1**	**$599.3**	**$601.2**	**$625.5**	**$650.7**	**$676.9**	**$704.2**
% Royalties to Adamas										*15%*	*15%*	*15%*	*15%*
U.S. Namenda XR/Aricept Royalties to Adamas										**$93.8**	**$97.6**	**$101.5**	**$105.6**
Total U.S. Namenda Franchise Royalties to Adamas	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$16.7**	**$17.3**	**$111.8**	**$116.2**	**$120.8**	**$125.5**

(1) Forest Laboratories' fiscal year ends March 31st

(2) Includes prescriptions for cholinesterase inhibitors such as Aricept, Exelon, and Razadyne, and NMDA antagonist Namenda

Source: Company reports, and PJC estimates

COMPANY MANAGEMENT

Adamas is led by a highly seasoned management team of formulation/PK experts and experts in the CNS space. CEO Dr. Gregory Went has founded other drug development companies (i.e. co-founder of biotech company CuraGen) and is an inventor on several dozen patents, including patents related to the Namenda line extensions.

Gregory Went, Chief Executive Officer & Chairman. Dr. Went has overseen the development of the company since its inception. He co-founded CuraGen Corporation in 1992, where he served as an Executive Vice President and Director. Dr. Went received his Ph.D. in Chemical Engineering from the University of California, Berkeley, a B.S. in Chemical Engineering from Carnegie Mellon University and is the author of 21 papers and an inventor on more than 45 patents and patent applications.

Anthony M. Rimac, Chief Financial Officer. Mr. Rimac joined Adamas in 2011 from Aerovance where he served as Chief Financial Officer. Prior to Aerovance, he served as Vice President of Finance at Artemis, where he led the sale of the Company to Johnson & Johnson in 2004. Mr. Rimac also spent several years as Vice President of Finance & Administration at Aesculap, a division of the B|Braun Group of Companies. He holds a B.A. in Business Economics from the University of California at Santa Barbara, and an M.B.A. from Santa Clara University.

Natalie McClure, Senior Vice President, Product Development. Dr. McClure has more than 30 years of experience in pharmaceutical development and more than 20 years of regulatory affairs in the industry. Her professional experience includes positions at Cerimon Pharmaceuticals, Amgen , Tularik, Intrabiotics Pharmaceuticals, Matrix Pharmaceuticals and Syntex Research. Dr. McClure earned her Ph.D. in Organic Chemistry from Stanford University and a B.S. in Chemistry from the University of Michigan.

Jeffrey H. Knapp, Chief Commercial Officer. Mr. Knapp joined Adamas in 2014 as Chief Commercial Officer and brings more than 25 years of commercial and operations experience in the pharmaceutical/biotech industry. Prior to Adamas, Mr. Knapp spent seven years as the Chief Commercial Officer for Affymax. Prior to Affymax, he served as Executive Vice President of Sales and Marketing for Abgenix, Vice President of Sales and Marketing for Pharmion, and Vice President of Sales and Marketing for EMD Pharmaceuticals. Mr. Knapp earned his B.S. degree from Wittenberg University.

David Chernoff, Chief Medical Officer (acting). Dr. Chernoff joined Adamas as Vice President of Medical Affairs in 2005 and serves as Chief Medical Officer. From 1990 to 2000, he served as Medical Director of Chiron Corporation/Chiron Diagnostics. Previously, he served as Vice President of Corporate Technology at Elan and as an operating partner at TPG for the biotech venture fund. He has been the acting Chief Medical Officer of several startup biotech companies including Aquinox Pharmaceuticals, Inc., Crescendo Bioscience, Tethys BIO and Pulse Health LLC. Dr. Chernoff did his residency in internal medicine at UCSF and was Assistant Chief of Medicine. Dr. Chernoff received a B.S. in Molecular Biology from Yale University, an M.D. from New York University, and his medical training in internal medicine, rheumatology, and infectious disease at UCSF.

INVESTMENT RISKS

FDA and clinical trial risk. Adamas' regulatory and clinical risks are generally similar to those of its other specialty pharma peers. The company has clinical risk related to its Phase III program for ADS-5102 as well as risk associated with earlier stage studies for the product (such as development in traumatic brain injury). Adamas also faces regulatory risk related to the NDA filing for MDX-8704 (albeit limited in our view given that the components of the combination are commercially available) which should see FDA action in 4Q14.

Competition related to Namenda line extensions and ADS-5102. Generics for the immediate-release formulation of Namenda (marketed by Forest) are set to enter the market in 2015. That said, Forest is planning to cease shipping the product later this year to effectuate a full switch over of patients who are taking the immediate-release formulation to Forest/Adamas' extended-release formulation (and eventually Forest/Adamas' combination product, if approved). Despite the immediate-release formulation being off the market, we still expect generics for this formulation to gain meaningful market share of the memantine market. Regarding ADS-5102, there are several brand and generic products available for the treatment of Parkinson's that would compete with ADS-5102. Though the data for ADS-5102 points to a strong clinical benefit, there is always the risk that we could see less than generous managed care access for the drug.

Intellectual property risks related to Namenda line extensions. Though there are at least 6 issued patents related to both Namenda XR and MDX-8704 (NamendaXR/Aricept) that expire as late as 2029, generics companies are nonetheless going to challenge the validity of these patents and/or seek to circumvent them. Though demonstrating invalidity and/or non-infringement on every patent in ADMS's intellectual property estate will in our view be difficult, it is nonetheless a source of uncertainty that could limit the extent to which investors ascribe value to ADMS's royalty streams over the long-term.

Adamas Pharmaceuticals - Quarterly and Annual Income Statement

Fiscal Year Ends December 31 ($ In millions, except for EPS)	2012A	2013A	2014E 1QE	2014E 2QE	2014E 3QE	2014E 4QE	2014E	2015E 1QE	2015E 2QE	2015E 3QE	2015E 4QE	2015E	2016E	2017E	2018E	2019E	2020E	2021E
Product Sales																		
ADS-5102 Net Sales	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$48.5	$91.8	$129.8	$149.8	$170.2
Namenda royalties	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$16.7	$17.3	$111.8	$116.2
Milestone Payments [1]	$37.5	$71.1	$40.0	$0.0	$0.0	$30.0	$70.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total Revenue	**$37.5**	**$71.1**	**$40.0**	**$0.0**	**$0.0**	**$30.0**	**$70.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$48.5**	**$108.6**	**$147.1**	**$261.6**	**$286.4**
Cost of sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.7	18.4	23.4	27.0	30.6
Gross Profit	**$37.5**	**$71.1**	**$40.0**	**$0.0**	**$0.0**	**$30.0**	**$70.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$0.0**	**$38.8**	**$90.2**	**$123.8**	**$234.6**	**$255.8**
Research & development	9.2	7.4	4.5	4.8	5.0	5.1	19.4	5.3	5.4	5.5	5.7	21.9	24.1	22.9	23.5	22.9	22.3	21.7
Selling, general and administrative	8.3	6.7	3.0	3.1	3.1	3.2	12.4	3.3	3.4	3.5	3.6	13.8	19.0	34.0	38.6	42.8	46.4	47.7
Total expenses	**$17.5**	**$14.1**	**$7.5**	**$7.9**	**$8.1**	**$8.3**	**$31.8**	**$8.6**	**$8.8**	**$9.0**	**$9.3**	**$35.7**	**$43.1**	**$56.9**	**$62.0**	**$65.7**	**$68.7**	**$69.4**
Operating Income	**$19.9**	**$57.0**	**$32.5**	**($7.9)**	**($8.1)**	**$21.7**	**$38.2**	**($8.6)**	**($8.8)**	**($9.0)**	**($9.3)**	**($35.7)**	**($43.1)**	**($18.0)**	**$28.2**	**$58.1**	**$165.9**	**$186.4**
Other income (expense), net	(1.9)	(4.9)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income (loss) before taxes	**$18.0**	**$52.1**	**$32.5**	**($7.9)**	**($8.1)**	**$21.7**	**$38.2**	**($8.6)**	**($8.8)**	**($9.0)**	**($9.3)**	**($35.7)**	**($43.1)**	**($18.0)**	**$28.2**	**$58.1**	**$165.9**	**$186.4**
Income tax provision	(0.3)	(1.2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(18.6)
Extraordinary items and pfd dividends	(6.1)	(15.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net income (loss)	**$11.6**	**$35.4**	**$32.5**	**($7.9)**	**($8.1)**	**$21.7**	**$38.2**	**($8.6)**	**($8.8)**	**($9.0)**	**($9.3)**	**($35.7)**	**($43.1)**	**($18.0)**	**$28.2**	**$58.1**	**$165.9**	**$167.7**
Non-GAAP EPS, basic	**$1.22**	**$2.63**	**$2.42**	**($0.48)**	**($0.49)**	**$1.28**	**$2.41**	**($0.50)**	**($0.50)**	**($0.51)**	**($0.52)**	**($2.03)**	**($2.28)**	**($0.90)**	**$1.35**	**$2.68**	**$7.39**	**$7.23**
Non-GAAP EPS, diluted	**$1.17**	**$2.63**	**$2.42**	**($0.48)**	**($0.49)**	**$1.28**	**$2.41**	**($0.50)**	**($0.50)**	**($0.51)**	**($0.52)**	**($2.03)**	**($2.28)**	**($0.90)**	**$0.97**	**$1.92**	**$5.28**	**$5.13**
Shares outstanding, basic	9.5	13.4	13.4	16.4	16.7	16.9	15.9	17.2	17.4	17.7	17.9	17.6	18.9	19.9	20.9	21.7	22.4	23.2
Shares outstanding, diluted	9.9	13.4	13.4	16.4	16.7	16.9	15.9	17.2	17.4	17.7	17.9	17.6	18.9	19.9	28.9	30.2	31.4	32.7
Expenses (as % of total revenues):																		
COGS (as % of product sales)												0.0%	0.0%	20.0%	20.0%	18.0%	18.0%	18.0%
R&D														47.1%	21.6%	15.5%	8.5%	7.6%
Selling, general and administrative														70.0%	42.0%	33.0%	31.0%	28.0%
Margins:																		
Gross margin (as % of total revenues)														80.0%	83.1%	84.1%	89.7%	89.3%
Operating margin															26.0%	39.5%	63.4%	65.1%
Net income															26.0%	39.5%	63.4%	58.6%
Income Tax														0.0%	0.0%	0.0%	0.0%	10.0%
Y-O-Y Growth rates:																		
Total revenue															**123.6%**	**35.5%**	**77.8%**	**9.5%**
R&D												12.9%	10.0%	-5.0%	2.5%	-2.5%	-2.5%	-2.5%
Selling, general and administrative												11.3%	53.2%	78.8%	13.5%	11.1%	8.4%	2.6%
Operating profit																106.1%	185.7%	12.3%
Net income																**106.1%**	**185.7%**	**1.1%**

(1) Milestone payments related to licensing agreement with Forest Laboratories on the Namenda line extensions (Namenda XR and MDX-8704, or a fixed dose combination of Namenda XR and Aricept)

ADMS: David Amsellem; david.a.amsellem@pjc.com; 212.284.9455

Current disclosure information for this company can be found at http://www.piperjaffray.com/researchdisclosures

Adams - Annual Cash Flow Statement

($ in millions)

	2012A	2013A	2014E	2015E	2016E	2017E	2018E	2019E
Beginning Cash & Equivalents	**$3.1**	**$63.0**	**$85.6**	**$165.6**	**$136.0**	**$101.0**	**$86.5**	**$123.1**
Operating Activities								
Net Income (loss)	$17.7	$50.9	$38.2	($35.7)	($43.1)	($18.0)	$28.2	$58.1
Depreciation	$0.0	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1	$0.1
Other	$1.9	$4.6	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)	($1.0)
Stock-based Compensation	$0.8	$0.6	$1.0	$4.0	$6.0	$8.0	$10.0	$11.0
Net Change in Assets and Liabilities	$31.5	($29.4)	$0.3	$0.2	$0.2	($6.4)	($3.4)	($2.4)
Cash From Operations	**$52.0**	**$26.8**	**$38.6**	**($32.4)**	**($37.8)**	**($17.3)**	**$33.9**	**$65.8**
Investing Activities								
Capital Expenditures	($0.0)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)	($0.2)
Short-Term Investments	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Acquisition of Tangible Assets	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Acquisition of Intangibles	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Investment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Cash From Investing Activities	**($0.0)**	**($0.2)**	**($0.2)**	**($0.2)**	**($0.2)**	**($0.2)**	**($0.2)**	**($0.2)**
Financing Activities								
Debt Issuance	$3.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Debt Repayments	$0.0	($4.0)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Share Repurchases	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Stock and Option Issuances	$4.0	$0.0	$41.5	$3.0	$3.0	$3.0	$3.0	$3.0
Other, Net	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Cash From Financing Activities	**$7.9**	**($4.0)**	**$41.5**	**$3.0**	**$3.0**	**$3.0**	**$3.0**	**$3.0**
Currency Translation Differences	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Net Change In Cash	$59.8	$22.7	$79.9	($29.6)	($35.0)	($14.5)	$36.7	$68.6
Year End Cash	**$63.0**	**$85.6**	**$165.6**	**$136.0**	**$101.0**	**$86.5**	**$123.1**	**$191.8**

ADMS: David Amsellem; 212.284.9455

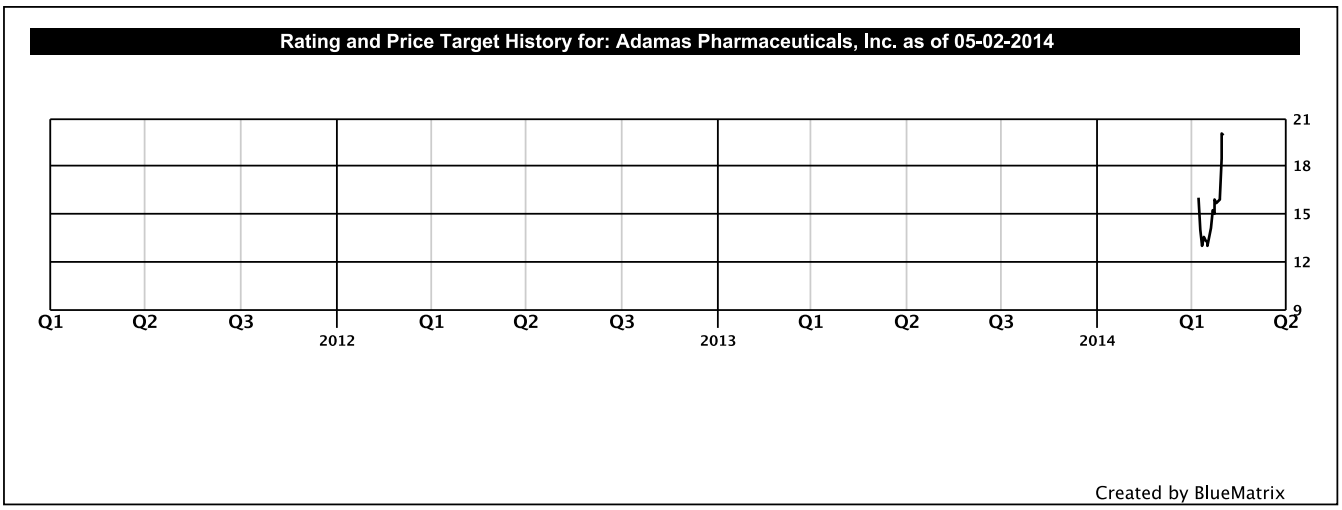
Adamas - Annual Balance Sheet

($ in millions)

	2012A	2013A	2014E	2015E	2016E	2017E	2018E	2019E
Current Assets								
Cash & Equivalents	$63.0	$85.6	$165.6	$136.0	$101.0	$86.5	$123.1	$191.8
Accounts Receivable, net	$0.9	$0.1	$0.0	$0.0	$0.0	$3.7	$5.5	$7.8
Inventories	$0.0	$0.0	$0.0	$0.0	$0.0	$2.9	$4.8	$5.1
Other Current Assets	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.3	$0.4
Total Current Assets	**$64.2**	**$86.0**	**$165.8**	**$136.3**	**$101.3**	**$93.5**	**$133.8**	**$205.1**
Property, Plant & Equipment, Net	$0.1	$0.2	$0.3	$0.4	$0.5	$0.6	$0.7	$0.8
Goodwill & other intangible assets	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Assets	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Total Assets	**$64.3**	**$86.2**	**$166.1**	**$136.7**	**$101.8**	**$94.1**	**$134.5**	**$205.9**
Liabilities & Equity								
Current Liabilities	$38.5	$4.2	$4.4	$4.7	$4.9	$5.1	$5.4	$5.7
Long-Term Debt	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Other Liabilities	$1.7	$6.2	$6.2	$6.2	$6.2	$6.2	$6.2	$6.2
Equity	$24.1	$75.8	$155.5	$125.8	$90.7	$82.7	$122.9	$194.0
Total Liabilities & Equity	**$64.3**	**$86.2**	**$166.1**	**$136.7**	**$101.8**	**$94.1**	**$134.5**	**$205.9**

Proprietary to Piper Jaffray. May 3, 2014
ADMS: David Amsellem; 212.284.9455

IMPORTANT RESEARCH DISCLOSURES



Notes: The boxes on the Rating and Price Target History chart above indicate the date of the Research Note, the rating, and the price target. Each box represents a date on which an analyst made a change to a rating or price target, except for the first box, which may only represent the first Note written during the past three years.

Legend:
I: Initiating Coverage
R: Resuming Coverage
T: Transferring Coverage
D: Discontinuing Coverage
S: Suspending Coverage
OW: Overweight
N: Neutral
UW: Underweight
NA: Not Available
UR: Under Review

Distribution of Ratings/IB Services
Piper Jaffray

			IB Serv./Past 12 Mos.	
Rating	Count	Percent	Count	Percent
BUY [OW]	349	61.12	86	24.64
HOLD [N]	204	35.73	20	9.80
SELL [UW]	18	3.15	0	0.00

Note: Distribution of Ratings/IB Services shows the number of companies currently in each rating category from which Piper Jaffray and its affiliates received compensation for investment banking services within the past 12 months. FINRA rules require disclosure of which ratings most closely correspond with "buy," "hold," and "sell" recommendations. Piper Jaffray ratings are not the equivalent of buy, hold or sell, but instead represent recommended relative weightings. Nevertheless, Overweight corresponds most closely with buy, Neutral with hold and Underweight with sell. See Stock Rating definitions below.

Analyst Certification — David Amsellem, Sr. Research Analyst
— Traver A. Davis, Research Analyst

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