Janney CAPITAL MARKETS

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Cara Therapeutics Inc.

CARA - BUY

February 25, 2014

Specialty Pharmaceuticals

Cara Therapeutics Inc.
(CARA) - BUY

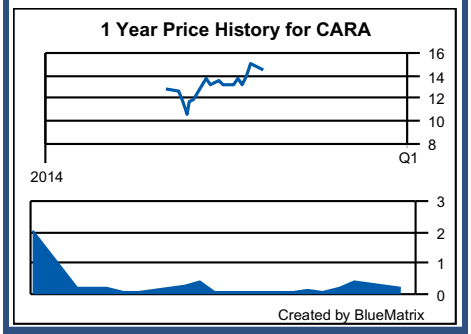
Price:	**$14.48**
Fair Value Estimate:	$25.00
52-Week Range:	$10.40-$15.69
Market Cap (MM):	$327
Shr.O/S-Diluted (mm):	22.6
Average Daily Volume:	NA
Dividend:	NA
Book Value:	$1.33

FYE: Dec	2013E	2014E	2015E
EPS:	$(1.60)E	$(1.45)E	$(1.70)E
Prior EPS:	NC	NC	NC
P/E:	NA	NA	NA

Quarterly EPS:			
Q1	$(0.42)A	$(0.30)E	--
Q2	$(0.38)A	$(0.38)E	--
Q3	$(0.38)A	$(0.38)E	--
Q4	$(0.42)E	$(0.39)E	--

FYE: Dec	2013E	2014E	2015E
Revenue (M):	$17.2E	$5.8E	$5.8E

Quarterly Revenue (M):			
Q1	$0.1A	$0.0E	--
Q2	$15.5A	$0.0E	--
Q3	$0.8A	$5.8E	--
Q4	$0.9E	$0.0E	--



Equity Research
Basic Report

Initiate with a BUY rating, $25 FV: A New Frontier in Pain Management

INVESTMENT CONCLUSION:

We are initiating coverage CARA Therapeutics (CARA) with a Buy rating and a $25 fair value estimate. CARA is a clinical-stage biopharmaceutical company focused on developing and commercializing CR845, which selectively targets kappa opioid receptors involved with pain. The lead product candidate is intravenous CR845, which is an injectable version of a first-in-class kappa-opioid receptor-based peripheral analgesic designed to provide pain relief without stimulating mu opioid receptors, which trigger many unwanted side effects. CARA has completed two Phase 2 trials investigating IV CR845 in both soft (laparoscopic hysterectomy) and hard tissue (bunionectomy) surgery successfully demonstrating significant pain relief and a consistent ability to decrease opioid-related adverse events. Currently, CARA is expecting to begin the Phase 3 pivotal trials for IV CR845 in the 2H14. An oral formulation of CR845 is looking to begin two Phase 2 trials in 2H14.

KEY POINTS:

- **New mechanism of action for treating pain.** CR845 is a first-in-class novel pain therapeutic targeting kappa opioid receptors. CR845 has demonstrated effective acute pain relief in both of its Phase 2b acute pain trials following soft (hysterectomy) and hard (bunionectomy) tissue surgeries. Due to its specific formulation, CR845 does not cross the blood/brain barrier and affect the central nervous system (CNS), thus negating the side effects that sidelined prior kappa-receptors agonists in the 1980s.
- **Opioid pain relief with lower side effects.** Though mu-opioids are considered the standard of care in acute pain they have many unwanted side effects such as euphoria, addiction, nausea, and vomiting. CR845 is a selective kappa-opioid receptor agonist that does not activate the mu-receptors that generate these adverse side effects. In clinical trials, CR845 demonstrated significantly lower nausea and vomiting.
- **Low abuse potential could lead to CR845 being unscheduled.** One of the significant benefits of CR845 is that is does not produce the euphoria typical in mu-opioids. With this lack of euphoria, there is a decrease in potential abuse and addiction. In fact, if CR845 shows very low likability in their Human Abuse Liability Study, set to complete in 2014, we believe that CR845 may qualify as a schedule V drug or even possibly un-scheduled. This would provide a significant advantage over current opioid therapies in ease of safety & prescribing.
- **Large market opportunity with a significant unmet need.** The post-operative pain market is estimated to be ~$6B in the US with ~300M IV units dosed per year. With the multi-modal analgesia as a standard of care and 75% of patients reporting adverse events from their pain medications, we believe that CR845 has the ability to draw significant market share if approved.
- **Initiate with a Buy rating, $25 fair value.** We value CARA at $25/share based on a sum-of-the-parts with CR845 sales of at $22.50/share based on a 4x multiple of 2019 US sales discounted 5 years at 20% to account for the risks remaining in this program. Our remaining $2.50/share value is based on cash (end 2014) and technology value.

Research Analyst Certifications and Important Disclosures are on pages 15 - 17 of this report

Summary and Investment Thesis

We are initiating coverage CARA Therapeutics (CARA) with a Buy rating and a $25 fair value estimate. CARA is a clinical-stage biopharmaceutical company focused on developing and commercializing CR845, which selectively targets kappa opioid receptors involved with pain. The lead product candidate is intravenous CR845, which is an injectable version of a first-in-class kappa-opioid receptor-based peripheral analgesic designed to provide pain relief without stimulating mu opioid receptors, which trigger many unwanted side effects. CARA has completed two Phase 2 trials investigating IV CR845 in both soft (laparoscopic hysterectomy) and hard tissue (bunionectomy) surgery successfully demonstrating significant pain relief and a consistent ability to decrease opioid-related adverse events. Currently, CARA is expecting to begin the Phase 3 pivotal trials for IV CR845 in the 2H14. An oral formulation of CR845 is looking to begin two Phase 2 trials in 2H14.

Top Reasons to Own CARA:

1. **New mechanism of action for treating pain.** CR845 is a first-in-class novel pain therapeutic targeting kappa opioid receptors. CR845 has demonstrated effective acute pain relief in both of its Phase 2b acute pain trials following soft (hysterectomy) and hard (bunionectomy) tissue surgeries. Due to its specific formulation, CR845 does not cross the blood/brain barrier and affect the central nervous system (CNS), thus negating the side effects that sidelined prior kappa-receptors agonists in the 1980s.
2. **Opioid pain relief with lower side effects.** Though mu-opioids are considered the standard of care in acute pain, they have many unwanted side effects such as euphoria, addiction, nausea, and vomiting. CR845 is a selective kappa-opioid receptor agonist that does not activate the mu-receptors that generate these adverse side effects. In clinical trials, CR845 demonstrated significantly lower nausea and vomiting.
3. **Low abuse potential could lead to CR845 being unscheduled.** One of the significant benefits of CR845 is that is does not produce the euphoria typical in mu-opioids. With this lack of euphoria, there is a decrease in potential abuse and addiction. In fact, if CR845 shows very low likeability in their Human Abuse Liability Study, set to complete in 2014, we believe that CR845 may qualify as a schedule V drug or even possibly un-scheduled. This would provide a significant advantage over current opioid therapies in ease of safety & prescribing.
4. **Large market opportunity with a significant unmet need.** The post-operative pain market is estimated to be ~$6B in the US with ~300M IV units dosed per year. With the multi-modal analgesia as a standard of care and 75% of patients reporting adverse events from their pain medications, we believe that CR845 has the ability to draw significant market share if approved.

Upcoming potential catalysts
EXHIBIT 1

Event	Expected Timing
End of phase 2 meeting	2Q14
Initiate oral CR845 phase 2 trials	2Q14
Initiate IV CR845 phase 3 trials	3Q14
Abuse liability studies	2H14

Source: Janney estimates

Valuation
We value CARA at $25/share based on a sum-of-the-parts with CR845 sales of at $22.50/share based on a 4x multiple of 2019 US sales discounted 5 years at 20% to account for the risks remaining in this program. Our remaining $2.50/share value is based on cash (end 2014) and technology value. We estimate a ~$45M raise in 2016.

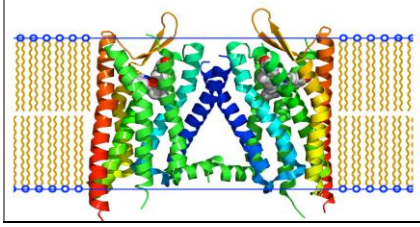
Sum-of-the-parts value: CARA		
Segment	Valuation (000's)	Per share value
CR845: IV post-op pain	$493,237	$22.5
Cash (end '14) & tech value	$55,387	$2.5
SUM	**$548,624**	**$25**
Shares out '14E (000)		21,842

Source: Janney estimates

Company Description

CARA is an emerging biotechnology company focused on developing novel therapeutics to treat pain and inflammation. Its lead product candidate is CR845, a best-in-class peripherally-selective kappa-opioid receptor-based molecule for the treatment of acute and chronic pain as well as neuropathic and inflammatory pain.

EXHIBIT 2 – k-opioid receptor



Source: Wikipedia

CARA has completed two Phase 2 trials in pain relief following a soft (laparoscopic hysterectomy) and hard tissue (bunionectomy) surgical procedure. In the soft tissue trial, both the primary and secondary endpoints were met. In the hard tissue trial, top-line data showed that the primary end point of reduction in pain over 24-hours was met as was the secondary endpoint of reduction in pain intensity over the entire 48-hour dosing period. CARA is currently planning three Phase 3 clinical trials with the FDA with an anticipated start of enrollment in 2H14.

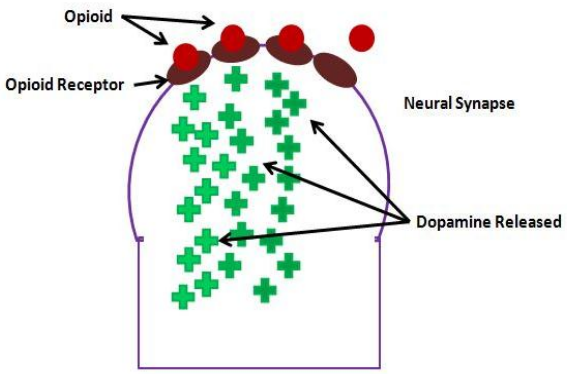
CARA also has developed both a capsule and tablet oral formulation of CR845. The capsule formulation successfully completed a proof-of-concept Phase 1 trial in April of 2012, looking at bioavailability, safety, and efficacy. The tablet formulation is scheduled to begin two Phase 1 trials in the first half of 2014. If successful, a Phase 2a proof-of-concept in acute pain would be scheduled for the second half of 2014.

CR845 – The kappa-opioid receptor agonist

Kappa vs. Mu Opioid Receptors:

Kappa-opioid receptors are one of the three classic opioid receptors primarily located on the neural synapse of the brain and pain neurons in the central nervous system (CNS). There are three classic opioid receptors: mu, delta and kappa. These receptors are responsible for the release of dopamine which is associated with stimulating the brain's reward and pleasure centers. The most commonly known of these receptors is the mu receptor, which is activated by opioids such as morphine and can cause pain relief, sedation and euphoria. Though opioids are highly effective analgesics, they often have serious side effects such as nausea, vomiting, respiratory depression, and reduction in gastrointestinal motility. Due to their ability to cause a state of euphoria, drugs that stimulate mu-opioid receptors also tend to cause physical and physiological dependence which leads to addiction.

EXHIBIT 3 – Diagram of Neural Synapse



Source: Janney

Lead product candidate, CR845 is a peripherally-acting kappa-opioid receptor agonist for the treatment of both chronic and acute pain. It is designed to treat pain via activation of the peripheral kappa-opioid receptors without triggering mu-opioid receptors. By not triggering the mu-opioid receptors, CR845 bypasses the unwanted opioid-related side effects such as nausea and vomiting and more importantly respiratory depression and potential addiction.

Not Your Typical Kappa:

- *No Interaction with the Central Nervous System:* Early on neurobiologists considered the idea of kappa-opioid receptors as possible targets for pain; however, they soon discovered that due to the activation of kappa-opioid receptors in the CNS, several serious side effects were observed. These included acute psychiatric disorders, dysphoria, depression, and hallucinations. CR845, however, is unique. CR845 is designed with specific chemical characteristics that restrict it from entering into the blood-brain barrier and CNS. Therefore, CR845 only acts on those nerve receptors outside of the brain and spinal cord. This peripheral action allows CR845 to be a powerful analgesic without the unwanted CNS side effects.

- *Reduction in standard mu-opioid related side effects:* Morphine and the morphine derivatives Oxycontin and Vicodin are the most commonly prescribed mu-opioid for both acute and chronic pain. These strong mu-opioid analgesics have been associated with post-operative opioid-induced respiratory depression (POIRD) and post-operative nausea and vomiting (PONV) as well as opioid-induced bowel dysfunctional (OBD). As CR845 is a

highly selective kappa-receptor, it has shown statistically significant reduction of opioid-related adverse effects such as POIRD and PONV.

- *Abuse potential is limited with CR845:* Current mu-opioid treatments are known to cause feeling of euphoria, which has shown an increased potential for abuse and addiction. In fact, Studies have shown a rapidly growing problem of abuse with an 81% increase in abuse of prescription pain drugs (primarily from OxyContin and Vicodin) from 1992-2003[1]. Activation of kappa-receptors does not cause euphoria which makes CR845 less likely to be abused. If the planned 2014 Abuse Liability Study shows low likeability, CARA management believes that they can ask that if approved, CR845 not be a controlled or scheduled opioid pain reliever. This would offer a significant competitive advantage over other scheduled drugs.

- *Safer drug-drug interaction profile:* Another benefit of CR845 is that it is a peptide composed of four non-natural D-amino acids that are not metabolized in the liver. This means that it will not interact with liver enzymes that are responsible for the metabolism of some of the most commonly used drugs like statins, ACE-inhibitors and some beta-blockers.

- *IV to Oral Stepdown* CARA Therapeutics is developing CR845 in at least two formulations; Intravenous (IV) and tablet form. CARA intends to have the IV formulation in the acute or hospital setting to be used pre- and post-operatively. With the IV Phase 2 trials indicating 24-hours of statistically significant pain relief, after the post-operative pain therapies dissipate, CARA can perpetuate the use of CR845 by offering a tablet form. Once the patient no longer needs IV formulation for their pain, they can "step-down" to the oral formulation upon discharge from the hospital. The tablet form also expands the marketplace for CR845 as it can be given for chronic pain.

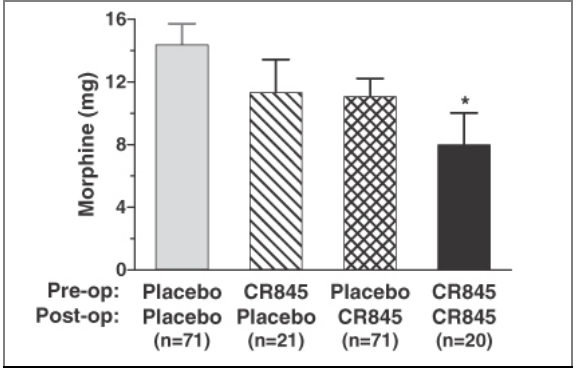
Intravenous CR845 and Acute Pain:
By definition, acute pain occurs suddenly, often as a result of illness, trauma or surgery. Though onset of acute pain is rapid and may resolve over the short-term, it may also last for days or weeks depending on the severity of the injury or illness and how rapidly the patient recovers and heals.

Pain and surgery tend to go hand in hand and postoperative pain is a substantial market of the overall pain marketplace. A recent study indicated that there are over 46 million inpatient[2] and 53 million outpatient[1] surgeries are performed in the US annually. According to the updated Practice Guidelines developed by the American Society of Anesthesiologists, the current standard for surgical pain management is a multimodal approach. This would consist of administration of two or more drugs that act on different pain mechanisms. Post-surgical pain is usually administered via IV and is usually a product containing mu-opioids such as oxycodone, oxymorphone and hydrocodone. There are ~300 million intravenous anesthetic units dosed per year in the US.

Phase 2b Clinical Trials:
Laparoscopic Hysterectomy (CLIN2002)
In June 2012, CARA has completed a multicenter, double-randomized, double-blind, placebo-controlled Phase 2b trial consisting of 203 patients at 22 sites in the US. Patients were administered either placebo or 0.04mg/kg IV CR845 preoperatively and post surgery, if they had a pain intensity score of ≥40 on a 100 point scale, they were randomized to receive either placebo or one dose of 0.04mg/kg IV CR845. Efficacy was measured using time specific 24 hour pain intensity difference. In summary, there were 4 measureable cohorts: Placebo/Placebo, CR845/Placebo, Placebo/CR845 and CR845/CR845.

The primary endpoint of reduction in total rescue morphine consumption in the first 24 hours post surgery met statistical significance with the CR845/CR845 group using approximately 45% less morphine than those in the Placebo/Placebo group.
Of the secondary endpoints of efficacy compared to placebo in pain reduction up to 24 hours. The CR845/CR845 group exhibited statistically significant reduction of pain over 24-hour time period as indicated by an improvement in 0-24 hour mean summed pain intensity difference (SPID). Pain intensity difference (PID) in

EXHIBIT 9 – Rescue Morphine Use

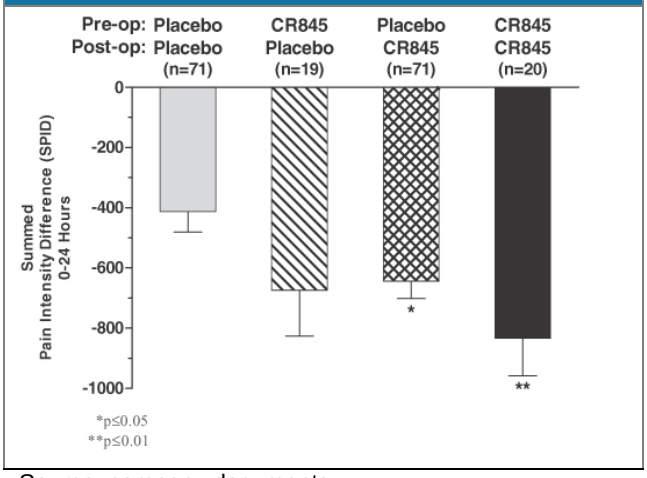


Source: company documents

[1] National Center on Addiction and Substance Abuse
[2] International Association for the Study of Pain

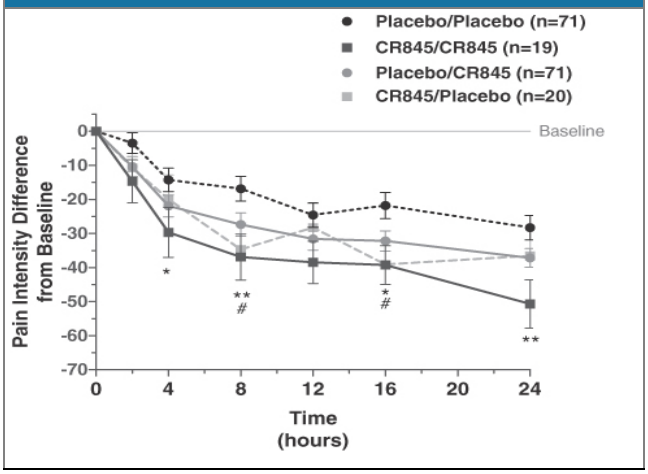
CR845/CR845 group also exhibited statistically significant improvements in pain over 0-4, 0-8 and 0-16 hour time intervals.

EXHIBIT 9 – P2b SPID from 0-24 hours



Source: company documents

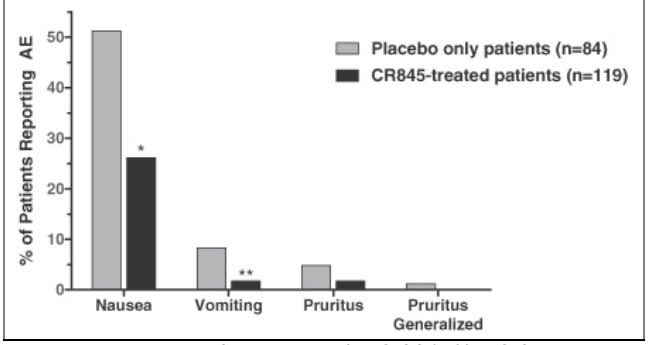
EXHIBIT 10 – P2b PID at Specific Time Intervals



Source: company documents

With the reduced use of rescue morphine, there was also seen a reduction in opioid-related side effects such as nausea, vomiting and pruritus. Also important to note, there were no CNS-related effects seen with centrally-acting kappa opioid agonists.

EXHIBIT 11 – Incidence of Opioid-Related AEs



Source: company documents *p≤0.001 **p≤0.05

EXHIBIT 12:

CLIN2002 - Phase 2b Laparoscopic Hysterectomy Trial	
Aim	Determine if CR845 is effective in treating pain associated with laparoscopic hysterectomy
Design	Multi-center, double-randomized, double-blind, placebo controlled - one preemptive IV dose and one postoperative IV dose, rescue morphine allowed
Dosing	CR845 0.04 mg/kg single IV dose administered pre-op and post-op for pain compared to IV placebo1': 1) IV CR845 both pre- and post-op (CR845/CR845) 2) Placebo pre-op and IV CR845 post-op (Placebo/CR845) 3) IV CR845 pre-op and Placebo post-op (CR845/Placebo) 4) Placebo pre-op and Placebo post-op (Placebo/Placebo)
Endpoints	1': Total morphine consumption in the first 24 housrs in patients who are re-randomized in post-op period - 24 hours 2': To evaluate the efficacy of CR845 compared to placebo for reducing pain following laparoscopic hysterectomy - up to 24 hours 2': To evaluate the effect of CR845 compared to placebo on the use of opioid analgesics during post-op period - UP to 24 hours
Patients	N = 203
Safety	Nausea 26.1% CR845 vs. 51.2% placebo, Vomiting 1.7% CR845 vs. 8.3% placebo, also decreased pruritus
Results - 6/11/12	Patients given pre & post op CR845 resulted in stat. signif. reduction (~33%) in rescue morphine use over 24 hrs post-surgery. Patient group exhibited ~ 2X or (~100%) increase in their calculated 24-hr PID (p=0.002) and SPID (p=0.003)value compared to placebo. Signif 24-hr analgesic seen in single post-op dose of CR845 where SPID value (p=0.014) increased by more htan 50% when compared to placebo.

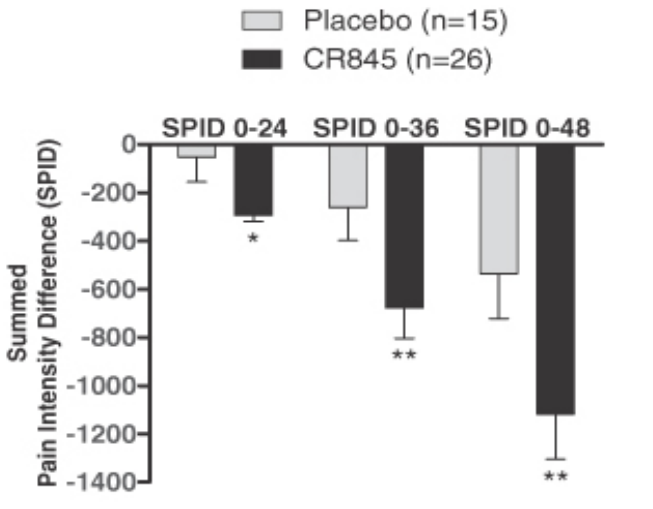
Source: Company Reports and Janney estimates

Bunionectomy (CLIN2003)

In October 2013, CARA completed a randomized, double-blind, placebo-controlled trail consisting of 51 patients in the US. Patients received an initial bolus dose of CR845 or placebo at randomization and again at patient's request, 30-60 minutes later and thereafter as needed up to every 8 hours over a 48-hour dosing period. Fentanyl was available as a "rescue" medication for patients not reporting adequate pain relief.

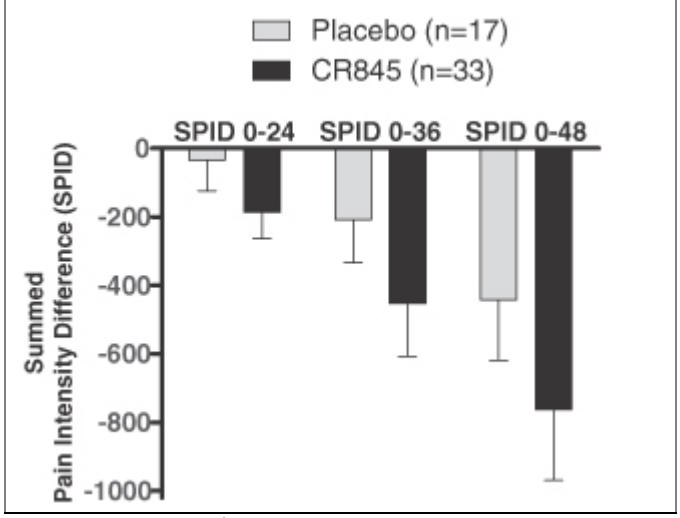
In the Completer Analysis, the CR845 treatment are met the primary endpoint of statistically significant (p=<0.05) reduction in pain intensity as measured by the SPID shore over the initial 24-hour period compared to placebo. The CR845 arm also met the secondary endpoint of a statistical (p=<0.025) reduction in pain intensity over the entire 48-hour dosing period

EXHIBIT 13 – SPID 0-24hrs, 0-36hrs, 0-48hrs in Completer Population



Source: company documents *p≤0.05 **p≤0.03

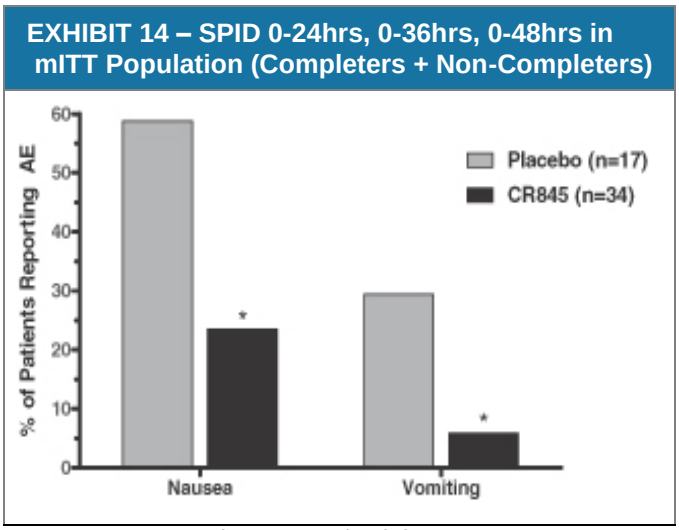
EXHIBIT 14 – SPID 0-24hrs, 0-36hrs, 0-48hrs in mITT Population (Completers + Non-Completers)



Source: company documents

In addition, the CR845 treatment resulted in a statistically significant reduction in the incidence of opioid-related adverse events of nausea and vomiting (by 60% and 80% respectively; p<0.05) compared to placebo during the 48 hour period of treatment. Though there was no observed differences in the overall mean fentanyl use between the placebo and CR845 treatment groups, CARA believes the ability of CR845 to reduce nausea and vomiting despite the fentanyl use is due to a direct anti-vomiting or anti-nausea effect resulting from its kappa opioid agonist mechanism of action.

EXHIBIT 14 – SPID 0-24hrs, 0-36hrs, 0-48hrs in mITT Population (Completers + Non-Completers)



Source: company documents *p≤0.05

EXHIBIT 15

CLIN2003 - Phase 2 Bunionectomy Trial	
Aim	Determine the analgesic efficiacy as well as safety and tolerability of CR845 after a bunionectomy
Design	Single-center, randomized, double-blind, placebo controlled parallel group proof of concept study
Dosing	CR845 0.04mg/kg initial dose followed by prn dosing
Endpoints	1': 24 hour summed pain intensity differences (SPID24) 2': Evaluate the efficacy of CR845 compared to placebo inreducing pain following bunionectomy (up to 48 hours) 2': Evaluate the effect of CR845 compared to placebo on the use of rescue opioids (fentanyl) during the post-op period (up to 48 hours)
Patients	N = 51
Safety	Safe & well tolerated, stat. signif reduction in incidence of opioid-related AE of nausea and vomiting (by 60% and 80%)
Results - 10/29/2013	Primary endpoint met: stat. signif. reduction in pain intensity as measured by SPID over initial 24 hours v. placebo ($p<0.05$). Seconday endpoint met: stat. signif. reduction in pain intensity over entier 48-hour dosing period $p<0.025$). CR845 also resulted in a stat. signif. reduction in the incidence of opioid-related adverse events of nausea (by 60%) and vomiting (by 80%) at $p<0.05$ compared to placebo over the 48 hours of treatment.

Phase 3 Clinical Development Plan for IV CR845:
With the success of the Phase 2b trials in both hard and soft tissue surgeries, CARA is currently planning its Phase 3 clinical program for management of acute pain in a hospital setting. Current assumptions are that CARA will be required to complete two Phase 3 trails, one with pain resulting from a soft tissue surgery and one in patients with pain resulting from a hard tissue surgery.

- Potential Phase 3 trial (CLIN3001): Randomized, double-blind, placebo controlled with ~600 female patients with postoperative pain after laparoscopic hysterectomy. Patients will be assigned one of three doses or placebo. The primary endpoint is expected to be the SPID at 24 hours with secondary endpoints of rescue morphine use, SPID at other time points and occurrence of nausea and vomiting.

- Potential Phase 3 trial (CLIN3002): Randomized, double-blind, placebo controlled with ~600 male or female patients with postoperative pain after bunionectomy. Patients will be assigned one of three doses or placebo. The primary endpoint is expected to be the SPID at 48 hours with secondary endpoints of rescue morphine use, SPID at other time points and occurrence of nausea and vomiting.

- Potential Phase 3 trial (CLIN3003): Supportive trial in ~450 patients with postoperative pain following either laparoscopic hysterectomy or bunionectomy surgery. This trail is looking at efficacy of IV CR845 when dosed pre-/post-surgery as compared with IV CR845 only post-surgery. This will be a three arm trial; CR845 pre- and post-surgery, post-surgery only or just placebo. Primary endpoints are expected to be at either SPID at 24 or 48 hours with secondary endpoints of rescue morphine use, SPID at other time points, TOPAR at 24 and 48 hours and occurrence of nausea and vomiting.

Oral CR845 and Chronic Pain
Chronic pain can be progressive, arising from such conditions such as systemic inflammation and musculoskeletal problems; the most common of which is lower back pain. Chronic pain is defined as any pain that lasts longer than three to six months. Co-morbidities associated with chronic pain such as cancer, rheumatoid arthritis, and fibromyalgia or nerve damage from diabetes. Treatments for chronic pain are dependent on severity.

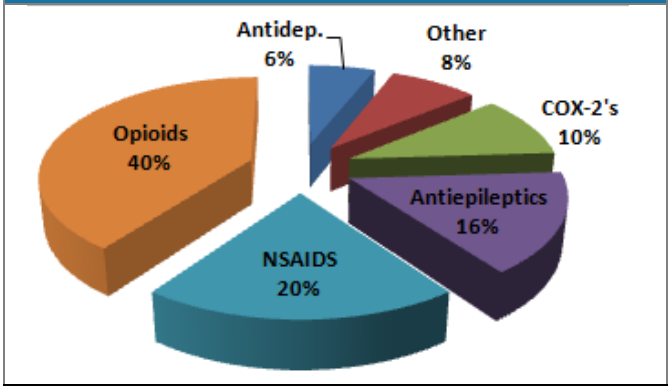
Current non-opioids: Generally mild-to-moderate pain is treated with over-the-counter products such as aspirin, acetaminophen and naproxen sodium. Non-opioid therapies can be limiting due to their limited efficacy and side effects such as liver toxicity, bleeding, serious GI complications including ulcers, kidney damage and even more serious cardiovascular thrombotic events such as stroke and heart attack.

Opioids**:** Opioids are the most commonly prescribed drug for both acute and chronic pain, with mu-opioids at the front of the pack. Morphine and the morphine derivatives Oxycontin and Vicodin are all commonly used. Though powerful in their pain relief, opioids have safety and tolerability issues[3]. Chronic opioid users can develop a tolerance for the opioid which results in the need for a higher dose. Also due to their CNS activity, mu-opioids can produce feeling of euphoria which can give rise of abuse and addiction.

[3] Johnson, et al. Journal of Pain and Symptom Management, March 2005

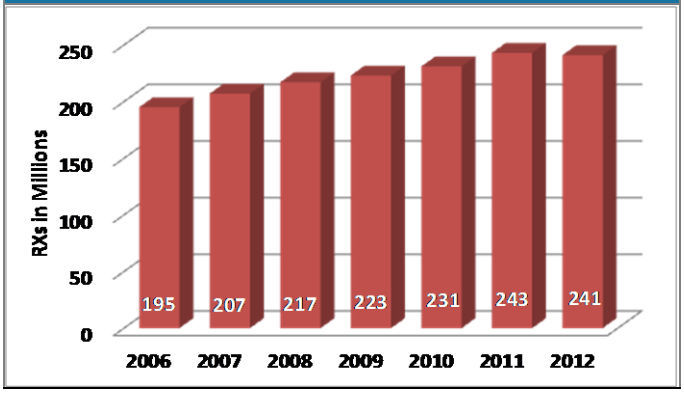
Yet, even with these risks, opioids remain the most prescribed pain medication with ~40% of the $20.6B global pain market in 2011. According to IMS Health, in 2012 the US market for opioid painkillers reached $9.4B.

EXHIBIT 16 – Total Market Sales 2011 - $20.6 B



Source: Decision Rsrcs. Chronic Pain Studv. Nov. 2011

EXHIBIT 17 – Annual US RXs of opioid painkillers



Source: IMS Health

Phase 1a Clinical Trial:
In April 2012, CARA completed a first-in-man Phase 1 clinical trial of an oral formulation of CR845. The trail was a single-center, double-blind, placebo-controlled study to evaluate the pharmakinetics (PK), safety and pharmacodynamics of CR845 in 50 healthy patients. Patients were randomized and received either placebo or one of four single ascending doses of the capsule of CR845. The study demonstrated a mean oral bioavailability of 16% across all groups, under fast with peak and total exposures proportional to each dose.

Phase 1b Clinical Development Plan for Oral CR845:
CARA is currently planning two Phase 1 clinical trials with a tablet version of CR845. CARA is planning to conduct both a single ascending and multiple ascending dose trails in the first half of 2014, which if successful would lead to the initiation of a Phase 2a proof-of-concept trail in acute pain in the second half of 2014.

- Potential Phase 1 (CLIN1002-PO): This trial will be a single ascending dose trial with 10 subjects per cohort, eight of whom will receive oral CR845 and two that will receive placebo. It is anticipated that there will be ~100 subjects with doses ranging from 0.1mg up to 2.0mg.

- Potential Phase 1 (CLIN1003-PO) This trial will be a multiple ascending dose trial with subjects divided into three cohorts based on low, mid, and high doses with 15 subjects per cohort, 10 receiving CR845 and five receiving placebo.

Management

Derek Chalmers, Ph.D., CEO, President & Director – Dr. Chalmers has 17 years experience in the biotechnology industry with increasing levels of corporate and business responsibilities. Dr. Chalmers served as a Principal Investigator at Neurocrine Biosciences (NASDAQ; NBIX) prior to co-founding Arena Pharmaceuticals (NASDAQ: ARNA) in 1997. He served as Vice President and Executive Director of Arena until May 2004, prior to co-founding Cara. Dr. Chalmers has extensive corporate financing experience, having led both private and IPO road-show teams. Dr. Chalmers is an inventor or co-inventor on over 50 issued or pending US patents

Michael Lewis, Ph.D., Chief Scientific Officer - Dr. Lewis has had extensive experience in the biopharmaceutical industry, and prior to that, about five years of experience in opioid research at the National Institutes of Health and the University of Michigan. After establishing and directing a molecular pharmacology lab at DuPont, Dr. Lewis co-founded Cephalon, Inc. (Nasdaq; CEPH), serving as Director of Pharmacology and Senior Director of Scientific Affairs. He participated in pre- and post-IPO road shows in Japan and the U.S, and presentations to obtain corporate partners, including Schering-Plough and Kyowa Hakko. Dr. Lewis later co-founded and served as Chief Scientific Advisor to Adolor Corporation (Nasdaq; ADLR), and also participated on their analgesics development team and assisted in pre-IPO financing and corporate partnering presentations. Dr. Lewis was subsequently invited by Dr. Chalmers to co-found Arena Pharmaceuticals (NASDAQ; ARNA), and served as a pre-IPO Director and Chief Scientific Advisor to Arena. Dr. Lewis is presently a Director of PolyMedix, Inc., a privately held biotechnology company that is developing antimicrobial agents based on a novel computational chemistry platform. Dr. Lewis is an inventor or co-inventor on 15 issued U.S. patents and is an author or co-author of over 40 publications on opioids, including journal articles, invited reviews, and book chapters

Frederique Menzaghi, Ph.D., VP of Research and Development – Dr. Menzaghi has seventeen years of drug development and management experience in biotechnology in the field of ion channels and GPCRs. She previously served as VP Pharmacology and Business Development at Psychogenics Inc., and was the Research Director of In Vivo Pharmacology at Arena Pharmaceuticals. Prior to that, Dr. Menzaghi established and directed a preclinical research laboratory at SIBIA Neurosciences. Her research expertise ranged from small molecules to peptides. She has extensive experience with corporate partnering with large pharmaceutical companies including Eli Lilly and J&J. Dr. Menzaghi received her Ph.D. in Neurosciences from the Louis Pasteur University, Strasbourg, France and a M.Sc. in clinical psychology from the University of Nancy. She has over 54 peer-reviewed publications and book chapters, 95 international meeting presentations and is listed as an inventor on numerous patents.

Josef Schoell, Chief Financial Officer – Mr. Schoell has over twenty years of financial and accounting experience, including ten years in the Biotechnology industry. From 2003 until joining the Company, Mr. Schoell was a consultant with Robert Half Management Resources. From 1995 to 2002, he served as the Chief Financial Officer and Vice President-Finance of the American Biogenetic Sciences Inc. and Controller from 1992 to 1995. From 1988 until joining American Biogenetic Sciences Inc., Mr. Schoell was an independent consultant providing financial accounting and computer services. From 1978 until 1988, Mr. Schoell served in various financial and accounting positions with JP Stevens. Mr. Schoell is a graduate of New York University Stern School of Business, is a Certified Public Accountant in New York State and a member of the New York State Society of Certified Public Accountants, American Institute of Certified Public Accountants and Financial Executives International.

RISKS TO FAIR VALUE ESTIMATE:

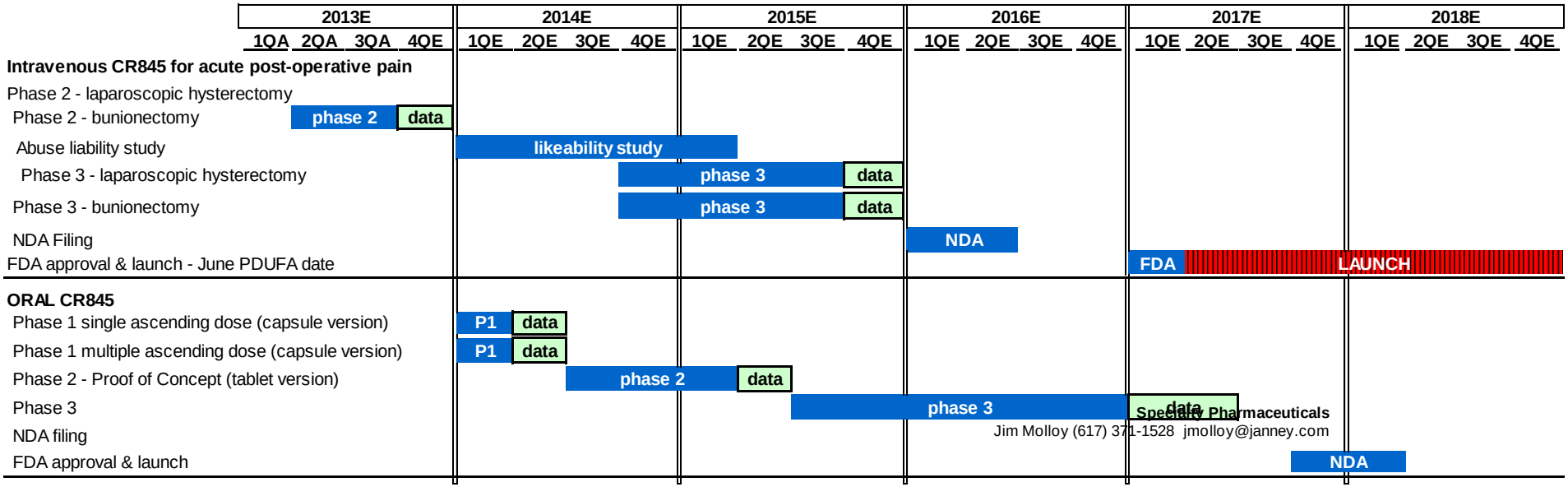
Exogenous events could impact our outlook. We believe that pharmaceutical companies have the least control over competitive, political, and regulatory risks. Although we have incorporated competitive assumptions into our forecasts, there may be other risks beyond the scope of our analysis. Changes in the drug reimbursement system, as well as any political or regulatory amendments, may significantly influence the earnings power of these companies.

Actual clinical results and the FDA's conclusions may deviate from expectations. Many of our assumptions are based on a review of incomplete clinical trial data available in the public domain. Often our conclusions are drawn from early-stage data, which may not be reflected by pivotal studies. Furthermore, the FDA's conclusions may not coincide with our own, materially changing our revenue and earnings assumptions.

Compliance issues, product recalls, and other mandates by regulatory authorities could materially change our expectations. Regulatory compliance issues, ranging from accounting irregularities to defective manufacturing practices, could materially change our assumptions and earnings outlook. Unanticipated product recalls and labeling changes could also have adverse consequences on our earnings assumptions.

Legal risks could lead to additional liabilities and revenue loss. In addition to the expenses incurred by patent challenges, product liability and other legal suits could occur and lead to additional liabilities and revenue loss, which could substantially change our financial assumptions.

CARA Therapeutics
Clinical development trial timelines



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Source: Company reports and Janney estimates

CARA Therapeutics
Quarterly income statement

($000 except per share)	2012 Year	2013E 1QA	2013E 2QA	2013E 3QA	2013E 4QE	2013E Year	2014E 1QE	2014E 2QE	2014E 3QE	2014E 4QE	2014E Year
Revenues											
CR845 - IV version											
CR845 - oral version											
License & milestones	$1,190		$15,000			$15,000			$5,750		$5,750
Collaborative revenues		$54	500	$800	$850	2,204					0
Total Revenue	**$1,190**	**$54**	**$15,500**	**$800**	**$850**	**$17,204**	**$0**	**$0**	**$5,750**	**$0**	**$5,750**
Expenses:											
Cost of Revenue (COGS)	-										
Gross Margin	**1,190**	**54**	**15,500**	**800**	**850**	**17,204**	**-**	**-**	**5,750**	**-**	**5,750**
Research and development	4,597	1,850	2,250	2,607	3,000	9,707	5,000	7,000	7,000	7,250	26,250
General and administrative	2,829	800	810	847	900	3,357	1,000	1,000	1,000	1,000	4,000
Total operating expenses	7,426	2,650	3,060	3,454	3,900	13,064	6,000	8,000	8,000	8,250	30,250
Income (loss) from Operations	**(6,236)**	**(2,596)**	**12,440**	**(2,654)**	**(3,050)**	**4,140**	**(6,000)**	**(8,000)**	**(2,250)**	**(8,250)**	**(24,500)**
Interest income (expense), net	(66)	(1,224)	(1,250)	(1,250)	(1,250)	(4,974)	(500)	(500)	(500)	(500)	(2,000)
Other (exp) gain, net											
Income (loss) before taxes	**(6,302)**	**(3,820)**	**11,190**	**(3,904)**	**(4,300)**	**(834)**	**(6,500)**	**(8,500)**	**(2,750)**	**(8,750)**	**(26,500)**
Income tax exp (benefit)	(31)	(9)	(9)	(9)							
Net Income (Loss)	**(6,271)**	**(3,811)**	**11,199**	**(3,895)**	**(4,300)**	**(807)**	**(6,500)**	**(8,500)**	**(2,750)**	**(8,750)**	**(26,500)**
Earning per Share (EPS)	**($0.76)**	**($0.42)**	**$1.12**	**($0.38)**	**($0.42)**	**($0.08)**	**($0.30)**	**($0.38)**	**($0.12)**	**($0.39)**	**($1.19)**
Adj EPS ex-1x & non-cash items			**($0.38)**			**($1.60)**			**($0.38)**		**($1.45)**
Weighted avg. shares (000)	8,250	9,000	10,000	10,202	10,250	9,863	21,842	22,092	22,342	22,592	22,217
Fully diluted shares (000)							23,592	23,592	23,842	24,092	23,780

Source: Company reports and Janney estimates

Specialty Pharmaceuticals
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CARA Therapeutics
Annual income statement

($000 except per share)	2012A	2013E	2014E	2015E	2016E	2017E	2018E	Comments
Revenues								
CR845 - IV version						$35,699	$164,141	Launch 2Q17
CR845 - oral version							-	Post-2018 launch
License & milestones	$1,190	$15,000	$5,750	$5,750	$5,500	-	-	Maruishi milestones
Collaborative revenues	-	2,204	-	-	-	-	-	
Total Revenue	**$1,190**	**$17,204**	**$5,750**	**$5,750**	**$5,500**	**$35,699**	**$164,141**	
Expenses:								
Cost of Revenue (COGS)	-	-	-	-	-	5,355	19,697	
Gross Margin	**1,190**	**17,204**	**5,750**	**5,750**	**5,500**	**30,345**	**144,444**	
R&D	4,597	9,707	26,250	31,250	25,250	27,750	22,000	
G&A	2,829	3,357	4,000	6,250	7,750	30,500	36,000	
Total op exp	7,426	13,064	30,250	37,500	33,000	58,250	58,000	
Inc/(loss) from Ops	**(6,236)**	**4,140**	**(24,500)**	**(31,750)**	**(27,500)**	**(27,905)**	**86,444**	
Int income (exp), net	(66)	(4,974)	(2,000)	(2,000)	(2,000)	(2,000)	(1,999)	
Other expenses, net	-	-	-	-	-	-	-	
Inc/(loss) before taxes	**(6,302)**	**(834)**	**(26,500)**	**(33,750)**	**(29,500)**	**(29,905)**	**84,445**	
Income tax exp (benefit)	(31)	-	-	-	-	-	12,667	
Net Income (Loss)	**($6,271)**	**($807)**	**($26,500)**	**($33,750)**	**($29,500)**	**($29,905)**	**$71,779**	
Earning per Share	**($0.76)**	**($0.08)**	**($1.19)**	**($1.45)**	**($1.09)**	**($1.05)**	**$2.05**	
Adj EPS ex-1x items		**($1.60)**	**($1.45)**	**($1.70)**	**($1.30)**			
Weighted avg. shares (000)	8,250	9,863	22,217	23,217	26,967	28,467	29,968	
Fully diluted shares (000)	-	-	23,780	25,967	29,967	31,967	34,968	

Source: Company reports and Janney estimates

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CARA Therapeutics
Balance sheet

($000's except per share)	2012A	2013E	2014E	2015E	2016E	2017E	2018E
ASSETS:							
Current assets							
Cash and cash equivalents	1,117	18,746	50,387	22,752	38,281	7,608	80,953
Income tax receivable	31	70	70	70	70	70	70
Prepaid expenses and other	80	600	500	500	750	750	750
Total current assets	**1,228**	**19,416**	**50,957**	**23,322**	**39,101**	**8,428**	**81,773**
PP&E	3,609	3,100	3,100	3,500	3,750	4,250	4,750
Restricted cash	700	700	700	700	700	700	700
Total Assets	**5,537**	**23,216**	**54,757**	**27,522**	**43,551**	**13,378**	**87,223**
LIABILITIES							
Total current liabilities	1,686	7,234	7,400	7,400	8,000	9,500	30,000
Deferred lease	1,377	1,200	1,200	1,200	1,200	1,200	1,200
Total liabilities	**3,098**	**8,434**	**8,600**	**8,600**	**9,200**	**10,700**	**31,200**
Shareholders Equity							
Convertible preferred share	58,522	65,586					
Beneficial conversion feature	2,050						
Common stock	3	17	22	22	22	22	22
Additional paid-in-capital	1,248	73,937	133,198	139,713	184,892	183,124	164,691
Accumulated deficit	(59,384)	(60,363)	(87,063)	(120,813)	(150,563)	(180,468)	(108,690)
Total shareholders' equity	**2,439**	**13,591**	**46,157**	**18,922**	**34,351**	**2,678**	**56,023**
Total liabilites & net worth	**5,537**	**22,025**	**54,757**	**27,522**	**43,551**	**13,378**	**87,223**

Source: Company reports and Janney estimates

CARA Therapeutics
Statement of cash flows

($000's except per share)	2012A	2013E	2014E	2015E	2016E	2017E	2018E
Operating Activities							
Net Income (Loss)	($6,271)	($807)	($26,700)	($33,750)	($29,750)	($29,905)	$71,779
Adjustments:							
Depreciation and Amortization	1,021	780	800	700	700	800	850
Non-cash compensation expense	61	115	200	200	275	350	350
Change in fair value of liability under licer	(25)	(35)	(35)	(35)	(35)	(35)	(35)
Change in fair value of investor rights/obl	-						
Accrued int. and amort. of bene. notes	25	4,000	4,000	4,000	4,000	4,000	4,000
Changes in assets and liabilites		5,159	(2,334)	1,200	(1,211)	(6,034)	(3,700)
Net cash from operations	**(6,031)**	**9,129**	**(24,269)**	**(27,885)**	**(26,221)**	**(31,024)**	**73,044**
Investing Activities							
Purchase of equipment	-	(50)	(50)	(100)	(150)	(150)	(200)
Proceeds from sale of of prop and equip	511						
Net cash from investing	**511**	**(50)**	**(50)**	**(100)**	**(150)**	**(150)**	**(200)**
Financing Activities							
Proceeds - convertible notes	2,538	1,500					
Financing from costs - convertible notes	(47)	(50)					
Repayment of LTD	(446)	(450)					
Issuance of common stock	86		55,660		41,400		
Stock option exercise	55	50	300	350	500	501	502
Proceeds from sale of Jr. convertibles	354	7,500					
Net cash from financing	**2,540**	**8,550**	**55,960**	**350**	**41,900**	**501**	**502**
Net change in cash	**(2,980)**	**17,629**	**31,641**	**(27,635)**	**15,529**	**(30,673)**	**73,346**
Cash at beginning of year	4,097	1,117	18,746	50,387	22,752	38,281	7,608
Cash at end of year	**1,117**	**18,746**	**50,387**	**22,752**	**38,281**	**7,608**	**80,953**

Source: Company reports and Janney estimates

IMPORTANT DISCLOSURES

Research Analyst Certification

I, Jim Molloy, the Primarily Responsible Analyst for this research report, hereby certify that all of the views expressed in this research report accurately reflect my personal views about any and all of the subject securities or issuers. No part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views I expressed in this research report.

Janney Montgomery Scott LLC ("Janney") Equity Research Disclosure Legend

Cara Therapeutics Inc. currently is, or during the past 12 months was, a Janney Montgomery Scott LLC client. Janney Montgomery Scott LLC, provided investment banking related services.

Janney Montgomery Scott LLC managed or co-managed a public offering of securities for Cara Therapeutics Inc. in the past 12 months.

Janney Montgomery Scott LLC received compensation for investment banking services from Cara Therapeutics Inc. in the past 12 months.

Janney Montgomery Scott LLC intends to seek or expects to receive compensation for investment banking services from Cara Therapeutics Inc. in the next three months.

The research analyst is compensated based on, in part, Janney Montgomery Scott's profitability, which includes its investment banking revenues.

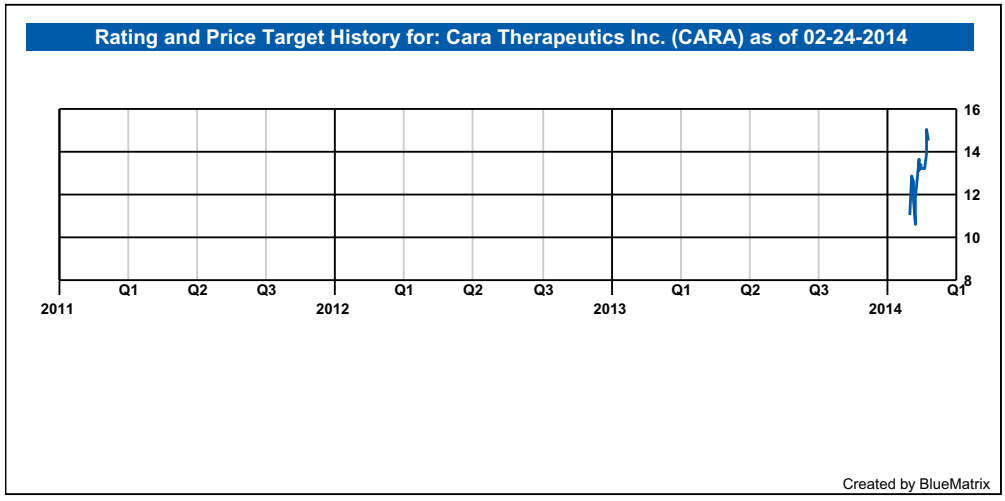
Definition of Ratings

BUY: Janney expects that the subject company will appreciate in value. Additionally, we expect that the subject company will outperform comparable companies within its sector.

NEUTRAL: Janney believes that the subject company is fairly valued and will perform in line with comparable companies within its sector. Investors may add to current positions on short-term weakness and sell on strength as the valuations or fundamentals become more or less attractive.

SELL: Janney expects that the subject company will likely decline in value and will underperform comparable companies within its sector.

Price Charts



Janney Montgomery Scott Ratings Distribution as of 12/31/13

			IB Serv./Past 12 Mos.	
Rating	**Count**	**Percent**	**Count**	**Percent**
BUY [B]	247	53.00	30	12.10
NEUTRAL [N]	211	45.50	13	6.20
SELL [S]	7	1.50	0	0.00

***Percentages of each rating category where Janney has performed Investment Banking services over the past 12 months.**

Other Disclosures

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