Evoke Pharma (EVOK - $ 7.86)

Healthcare/Biotechnology

EVK-001: A Well Risk Mitigated Clinical Development with Encouraging Commercial Outlook

Ticker:	**EVOK**
Rating:	**Buy**
Price Target:	**$ 19.00**

We are initiating coverage of Evoke Pharma, Inc. (EVOK) with a Buy rating and a 12-month price target of $19. Supported by modest risk development as a potential diabetic gastroparesis treatment; and Phase III study commencement in 2Q14 with potential results expected in late 2015, we believe EVK-001's clinical success, potential approval and commercial outlook are all very encouraging.

- **Intranasal metoclopramide (EVK-001) in diabetic gastroparesis (DG) development is a risk-mitigated program.** The major value proposition of EVOK share value is that the overall risk of EVK-001 development, clinically and potentially commercially, is well mitigated. As such, the current EVOK share price is substantially under-valued based on its risk / reward profile, in our opinion. By delivering the drug intranasally, circumventing delayed emptying of gastric content and occasional vomiting – factors that cause unpredictable drug absorption and impaired treatment efficacy – EVK-001 (intranasal delivered metoclopramide) is a logical approach that could resolve a major shortcoming of the current treatment.

- **Robust prior Phase II results bode well for a positive outlook of Phase III study and potential approval.** Two prior Phase II studies have demonstrated that EVK-001 is effective and safe since metoclopramide-based drugs have been the mainstay in gastroparesis treatment for several decades. Given the upcoming Phase III trial (METO IN-003) design is very similar to that of the successful Phase II trial, we are optimistic that the Phase III study should be successful (in late 2015) with a high likelihood of potential approval possibly in late 2H16.

- **Encouraging commercial outlook as EVK-001 could fulfill an unmet need in the current gastroparesis treatment landscape.** Competition within the gastroparesis treatment landscape is relatively modest, given very few products are in development, and are mainly in earlier stage. Despite generic medications dominate gastroparesis prescriptions, product attributes of EVK-001 could be appealing to both physician and patient; and, as such, they potentially could afford EVOK greater flexibility to price the drug at a premium.

- **Substantial upside remains at the current valuation.** Given EVOK shares remain under-exposed and under-valued, we believe substantial upside exist as developments further mature. Our $19 12-month target price is supported by our peer comparable, cash driven NPV and forward price/sales analyses.

Trading Data:

Last Price (04/21/2014)	$ 7.86
52–Week High (10/7/2013)	$ 14.25
52–Week Low (4/15/2014)	$ 6.48
Market Cap. (MM)	$ 47
Shares Out. (MM)	6

Earnings Estimates: (per share)

(Dec)	1Q	2Q	3Q	4Q	FY	P/E
FY-14E	-0.33	-0.58	-0.72	-0.79	-2.46	NM
FY-13A	-0.44	-0.21	-0.40	-0.27	-1.20	NM
FY-12A	-0.45	-0.32	-0.43	-0.60	-1.79	NM
FY-11A	NA	NA	NA	NA	-2.18	NM

Source: Company data and Laidlaw & Company estimates

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Investment thesis

Our $19 price target is based on a blended measurement of peer comparable, cash driven NPV and forward price/sales analyses

- **We are initiating coverage of Evoke Pharma (EVOK) with a Buy rating and a 12-month price target of $19.** Evoke Pharma is an advanced-clinical-stage pharmaceutical company focused on development and commercialization of its lead product, EVK-001 as a potential treatment for diabetic gastroparesis and gastroparesis in general. Based on the clinical profile of EVK-001, the market landscape of gastroparesis treatment, and the investor awareness of the stock, we view EVOK as a more risk-mitigated investment opportunity. Our $19 12-month target price is supported by our peer comparable, cash driven NPV and forward price/sales analyses.

Intranasal delivery of metoclopramide, thereby entering systemic circulation directly, could bypass the shortcoming of the current treatment and afford improvements in symptom relief.

Supported by the prior robust clinical study outcomes and similar Phase III trial design, we view the clinical risk of this development is rather mitigated.

- **Intranasal metoclopramide (EVK-001) in diabetic gastroparesis (DG) is a risk-mitigated program based on robust prior clinical study results.** The key and only asset of Evoke Pharma is an intranasal delivered metoclopramide (EVK-001). Despite metoclopramide is an effective gastroparesis treatment agent, the current oral pill delivery via gastroenterological track has created a dilemma given the very nature of the illness – delayed emptying of gastric content and occasional vomiting – which can result in unpredictable drug absorption; and render the treatment less effective for many patients. Intranasal delivery of metoclopramide, thereby entering systemic circulation directly, could bypass the shortcoming of the current treatment and afford improvements in symptom relief. Two prior Phase II studies that evaluated EVK-001 vs. oral metoclopramide and a placebo, respectively, demonstrated that EVK-001 was superior in both studies regarding symptom improvement. The company is in preparation to commence a pivotal Phase III study potentially in 2Q14 with possible data readout in 2Q15. Trial design of the Phase III study is very similar to that of the prior positive Phase IIb trial. Accordingly, we estimate a potential FDA filing, possibly with the 505(b)(2) pathway in 2H15 with possible approval in late 2016. Supported by the prior robust clinical study outcomes and similar Phase III trial design, we view the clinical risk of this development is rather mitigated and should only take a rather short development timeframe.

Very limited number of gastroparesis treatments are currently in development and they all are in relatively early clinical development stages.

- **Positive commercial outlook is based on unmet need in gastroparesis treatment and with limited competition.** The gastroparesis treatment landscape is dominated by metoclopramide-based therapies despite the shortcoming of current regimens. The overwhelming majority of oral metoclopramide prescriptions are for generic products. Two branded products have not generated materially significant revenue as they have not exhibited significant differentiation from generic counterparts, in our opinion. In addition, only a very limited number of gastroparesis treatments are currently in development, and most programs are in relatively early clinical development stages. As such, any potentially successful one might not reach the market for quite a few years. Given 1) EVK-001 is based on a drug with proven efficacy, 2) it could potentially provide a solution to the

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key shortcoming that renders current marketed drugs less effective; and 3) market research suggests that offering by EVK-001 would appear to be welcomed by physicians, patients and possibly reimbursed by payers more generously even priced at a premium level; we believe the commercial outlook could be very encouraging. We estimate potential annual peak sales for EVK-001 in gastroparesis could reach $320+MM.

EVOK could be a viable acquisition target for both GI-emphasized and general specialty pharmaceutical companies.

- **Experienced management team is a plus, and upside for EVOK as a potential acquisition target.** Evoke's senior management team is comprised of seasoned professionals who have extensive experience in pharmaceutical commercial operations, alliance and partnership management, and clinical development. In addition, given the modest risk profile in EVK-001's clinical development, potential approval, and encouraging market potential, we view EVOK could be a viable acquisition target for both GI-emphasized and general specialty pharmaceutical companies. We believe more active or potentially more advanced partnership (or acquisition) discussions could take place after the company reported potentially positive Phase III study results, based on an assumption that many acquiring prospects are more risk averse and would like to avoid clinical risks.

- **Substantial upside remains at the current valuation.** Based on multiple clinical developments and potential the market potential of EVK-001 if clinically successful and approved, we believe EVOK shares are undervalued. With several material catalyst events in 2014 and beyond, we believe EVOK shares potentially could materially appreciate should outcome of these events be positive. Accordingly, our $19 price target is supported by peer comparable, cash driven NPV and forward price/sales analyses. We are recommending EVOK shares to long-term oriented investors with high risk tolerance.

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Company Description

Evoke Pharma is an advanced-clinical stage pharmaceutical company focused on discovering, development and commercialization of EVK-001 as a potential treatment of diabetic gastroparesis. EVK-001 is an intranasally delivered metoclopramide for the purpose of treating gastroparesis by circumventing the shortcoming – reduced treatment impact caused by unpredictable drug absorption – of the current oral metoclopramide-based treatment. The company expects to commence a Phase III pivotal study in 2Q14 and expect to report top-line results in late 2H15. As such, EVK-001 could potential reach market in late 2016.

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Anticipated Milestones in 2014 and Beyond

Product	Indication	Event	Timing	Importance
EVK-100	Diabetic gastroparesis	Commencement of METO IN-003 Phase III trial	**2Q14**	***
		Commencement of METO IN-004 (male only) Phase III trial	**2Q14**	**
		Commencement of QT cardiac safety clinical study	**3Q14**	**
		Potentially report top-line QT cardiac safety clinical study results	**1H15**	***
		Potentially report top-line METO IN-003 Phase III trial results	**3Q15**	*****
		Potentially filing via 505(b)(2) pathway for approval	**Late 15 / early '16**	***
		Potential approval	**Late '16**	*****

***** / ***** Major catalyst event that could impact share price very significantly while *** event is more informative*

Source: Laidlaw & Company and company presentation

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EVK-001 in Diabetic Gastroparesis: A Well De-risked Clinical and Commercialization Development

EVK-001 is a unique product that could address the major shortfall of current metoclopramide-based medications

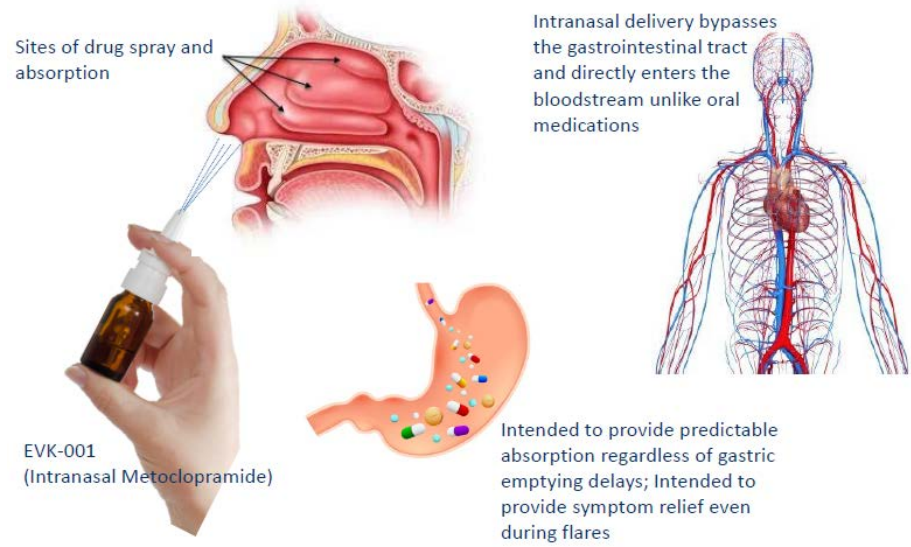
The key investment highlight of EVOK shares is the company's sole lead product, intranasal delivered metoclopramide or EVK-001 could circumvent the shortcoming – reduced treatment impact due to unpredictable drug absorption – of the current oral metoclopramide-based treatment and affords improvements in symptom relief. Two prior Phase II studies that evaluated EVK-001 vs. oral metoclopramide and a placebo, respectively, have demonstrated that EVK-001 was superior in both studies regarding symptom improvement. Prior robust clinical study outcomes and similar study design of the upcoming Phase III trial and prior Phase IIb study, in our opinion, could mitigate the EVK-001's overall clinical risk. We are also encouraged by the commercial outlook of EVK-001 since the competitive landscape is rather limited and here is material differentiation between EVK-001 and all other marketed products. Evoke potentially is to commence a Phase III study in 2Q14 with possible data readout in 3Q15. We estimate a potential FDA filing, possibly in late 2H15 with the 505(b)(2) pathway with possible approval in late 2016.

What is EVK-001?

EVK-001 is an intranasal delivered metoclopramide for the purpose of treating gastroparesis by circumventing the shortcoming of the current oral metoclopramide-based treatments – reduced treatment impact due to unpredictable drug absorption.

EVK-001 is an intranasal delivered metoclopramide for the purpose of treating gastroparesis by circumventing the shortcoming of the current oral metoclopramide-based treatments – reduced treatment impact due to unpredictable drug absorption (Figure 1).

Figure 1: Major Value Proposition of EVK-001 in Gastroparesis Treatment



Source: Company presentation

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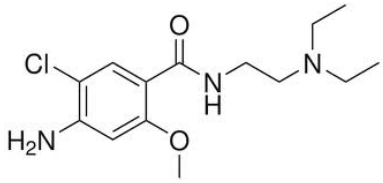
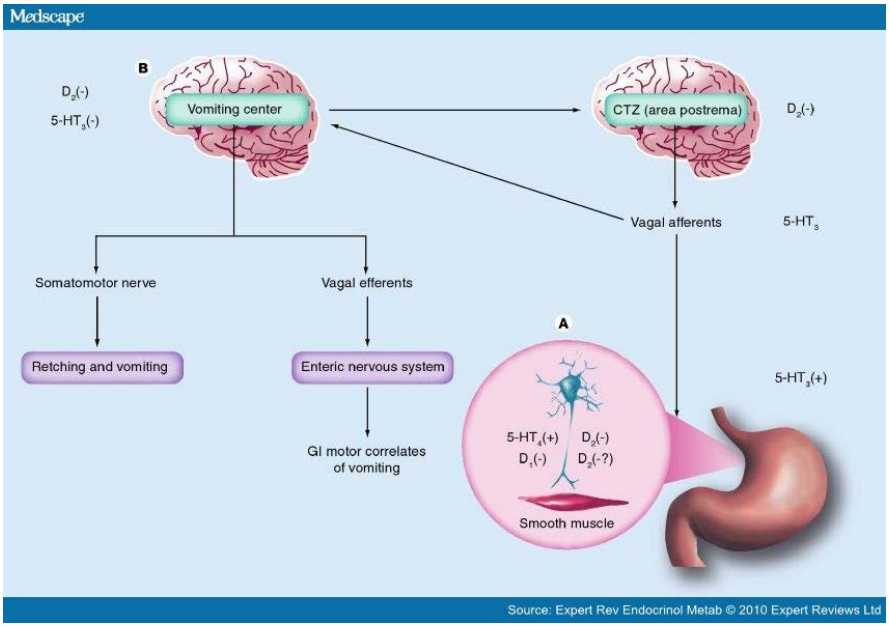
Unlike oral medications, by bypassing the gastrointestinal tract and delivering active drug directly into the bloodstream, EVK-001 could provide a more predictable absorption regardless the presence of gastric emptying delays or vomiting; potentially resulting in a better symptom relief even during flares.

The mechanism of action of metoclopramide is increased gastric motility and as an anti-emetic.

Mechanism of action of Metoclopramide. Metoclopramide (4-amino-5-chloro-N-(2-(diethylamino)ethyl)-2-methoxybenzamide), (Figure 2, left) is a dopamine D_2 antagonist with activity as 5-HT_4 agonist (with Ki=28.8nM), muscarinic receptor antagonist and 5-HT_3 antagonist. The mechanism of action of metoclopramide is increased gastric motility and as an anti-emetic. Its anti-emetic effect is to lower the effect of dopamine via D_2 receptor in the chemoreceptor trigger zone (CTZ) located in the central nervous system (CNS). The increased gastric motility is based on increased tone and amplitude of gastric contractions and relaxation of pyloric sphincter to accelerate gastric emptying and intestinal transit mediated by muscarinic activity of D_2 receptor in the peripheral nerve system (PNS) (Figure 2, right).

Figure 2: Structure of Metoclopamide (left) and its Mechanism of Action in Gastroparesis Treatment (right)





Source: medscape.com

Two doses EVK-001 treatments (10 and 20 mg) had lowered total symptom score or TSS compared to the oral metoclopramide (10 mg)-treated group with statistical significances (p= 0.026 and 0.008, respectively) on a per-protocol basis

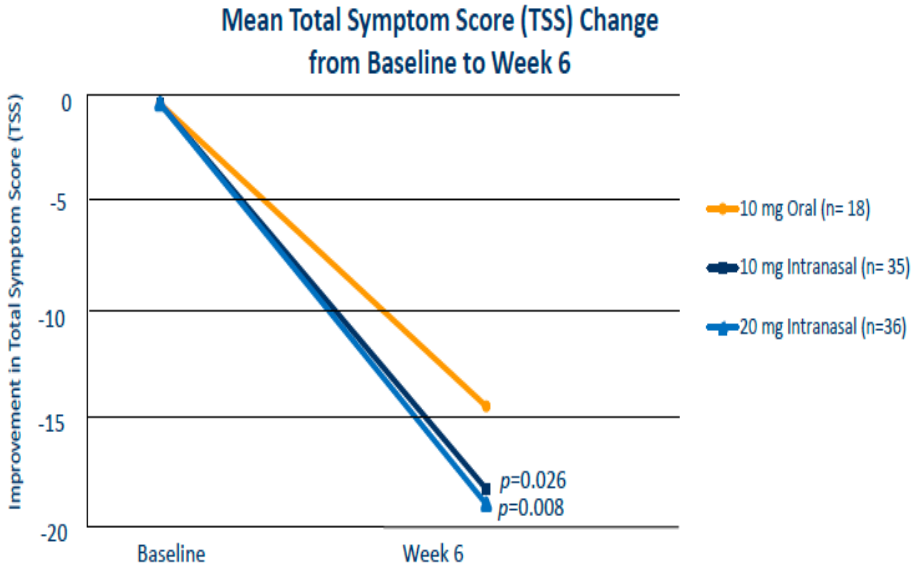
Two robust Phase II results bode well for a positive outlook of upcoming Phase III studies and potential approval

Questcor Pharmaceuticals (QCOR – NR), which recently was acquired by Mallinckrodt (MNK – NR), the prior owner of intranasal metoclopramide (EVK-001), have conducted a Phase II study evaluating EVK-001 vs. oral metoclopramide in diabetic gastroparesis patient to assess the commercial potential of EVK-001. Evoke in-licensed EVK-001 worldwide rights, data, and patents from Questcor Pharmaceuticals in June 2007.

Phase II study The study demonstrated that two doses EVK-001 treatments (10 and 20 mg) had lowered total symptom score or TSS (a symptom assessment report combined input from patient and clinical investigator) compared to the oral metoclopramide (10 mg)-treated group with statistical significances (p= 0.026 and 0.008, respectively) on a per-protocol basis (Figures 3 and 4 – left).

On an intent-to-treat (ITT) basis, the 20 mg EVK-001 (p=0.026) but not the 10 mg EVK-001 (p= 0.132) had lowered TSS vs. oral metoclopramide treatment group (Figure 4). On the safety side, EVK-001 is overall favorable as more nausea was observed in the oral metoclopramide treatment group.

Figure 3: Oral vs. Intranasal Metoclopramide (EVK-001) in Diabetic Gastroparesis (DG) Phase II Study



Source: Company presentation

Study design: The study was a multicenter, randomized, open-label, parallel design Phase II study enrolled 89 patients with 1:2:2 randomization among oral metoclopramide, 10 mg and 20 mg EVK-001 treatment groups. Nearly half (54%) of the patients were female. Patients received four administrations per day (QID) with treatment duration of six weeks. Primary endpoint of the study is the changes of TSS from baseline to the end of study (six weeks).

Figure 4: Oral vs. Intranasal (EVK-001) Metoclopramide in DG Phase II Study, On Per Protocol (left) and ITT(right) Basis

Treatment	*N*	Baseline mean	Mean change from baseline	Difference from oral 10 mg Mean (95% C.I.)	*p*-value
Oral 10 mg	16	22.8	−13.9	–	–
Nasal 10 mg	30	23.4	−17.7	−3.8 (−7.1, −0.5)	0.026
Nasal 20 mg	30	21.3	−18.4	−4.6 (−7.9, −1.2)	0.008

*Baseline TSS and Study Center adjusted mean change.

Treatment	*N*	Baseline mean	Mean change from baseline*	Difference from oral 10 mg Mean (95% C.I.)	*p*-value
Oral 10 mg	18	22.9	−14.3	–	–
Nasal 10 mg	34	23.4	−16.8	−2.5 (−5.8, 0.8)	0.132
Nasal 20 mg	35	21.3	−18.0	−3.8 (−7.1, −0.5)	0.026

*Baseline TSS and Study Center adjusted mean change.

Source: Company presentation

Although the trial design of the oral vs. intranasal metoclopramide study will not be used for the upcoming pivotal clinical studies (intranasal vs. placebo) for potential approval, the positive outcome of this Phase II study is very compelling, particularly from commercial prospective. Should EVK-001 receive approval after a potential positive upcoming pivotal study, the company could potentially commence an oral vs. intranasal comparative Phase IV study post-launch. If such study demonstrated that intranasal metoclopramide (EVK-

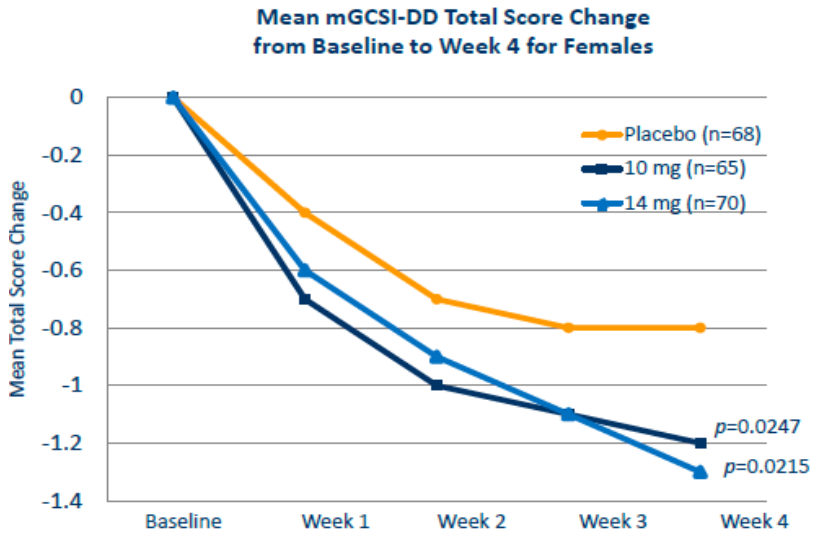
001) to be superior to that of oral counterpart, the commercial outlook of EVK-001, in our opinion, could be further enhanced.

After acquired EVK-001, Evoke conducted a Phase IIb clinical trial (METO-IN-002) to further evaluate the drug's potential as a potential diabetic gastroparesis treatment with study design that potentially could be used for the future pivotal trials.

The study demonstrated that EVK-001 (in two doses, 10 mg and 14 mg vs. placebo) was effective in reducing the most common and clinically relevant symptoms associated with gastroparesis in women measured by mGCSI-DD

Phase IIb trial (METO-IN-002) The study demonstrated that EVK-001 (in two doses, 10 mg and 14 mg vs. placebo) was effective in reducing the most common and clinically relevant symptoms associated with gastroparesis in women measured by Gastroparesis Cardinal Symptom Index Daily Diary, or mGCSI-DD ($p<0.025$) (Figure 5). Male patients treated with EVK-001 showed some improvement in gastroparesis symptoms, but did not show a statistically significant difference compared to placebo. As such, if measured on an ITT base, the study did not meet primary endpoint ($p=0.15$) due to high placebo impact on male patients.

Figure 5: Positive METO-IN-002 Efficacy Results



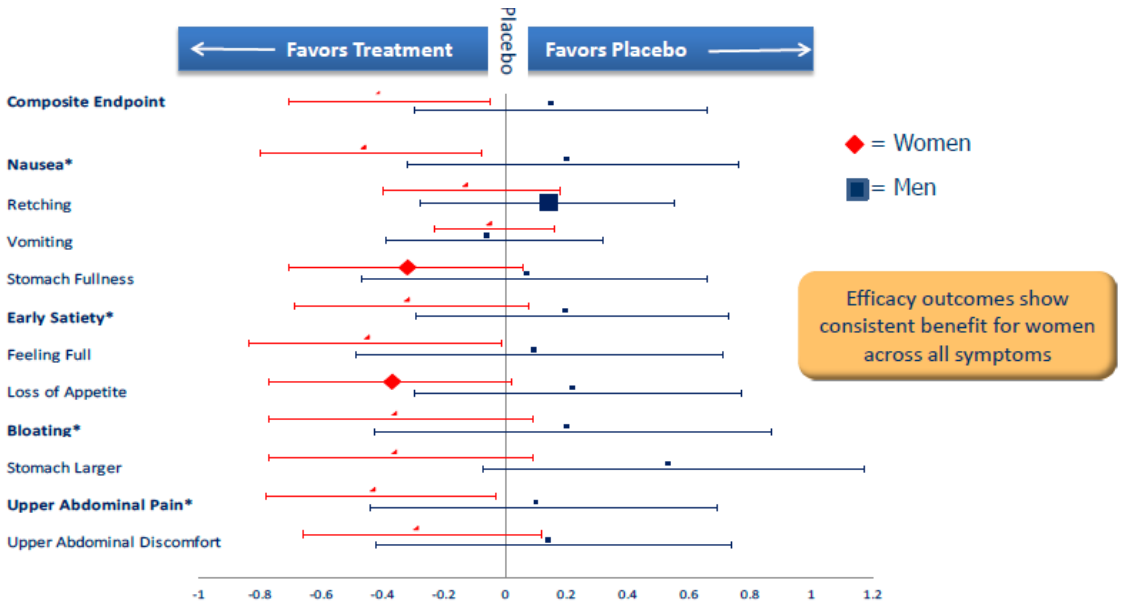
Source: Company presentation

The gender differences in drug effect is not uncommon in GI indications, such as irritable bowel syndrome

The gender differences in drug effect is not uncommon and such a phenomenon has been observed in other indications, such as irritable bowel syndrome with products like Lotronex (alosetron) and Zelnorm (tegaserod), which were approved based on positive outcome mainly from clinical studies on female patients. Upon further analysis, the company has identified that female patients have experienced relief for multiple symptoms by EVK-001 treatment; while treatment benefits for male patients were very limited (Figure 6).

Together, we view the study outcome as very encouraging for its effectiveness in female patients. Based on the results, the company has filed a patent application for the female specific treatment impact. This patent could extend protection for EVK-001 till 2032 if it is granted. Evoke believes the METO-IN-002 study is one of the largest clinical trials involving a metoclopramide-based drug in diabetic gastroparesis patients.

Figure 6: METO-IN-002 Gender Disparity in Treatment Effects of EVK-001 vs. Placebo



Source: Company presentation

At the safety front, EVK-001 is well tolerated at both doses (Figure 7). While majority of AEs were mild-moderate and transient, there were no SAEs and without significant cardiac changes. There were >10% patient dropout with 5% due to AEs.

Figure 7: EVK-001 Demonstrated Well Tolerated Safety Profile Based on METO-IN-002 Study

	Placebo (N = 95)	EVK-001 10 mg IN (N = 95)	EVK-001 14 mg IN (N = 95)
Dysgeusia*	4 (4.2%)	12 (12.6%)	13 (13.7%)
Headache	4 (4.2%)	7 (7.4%)	8 (8.4%)
Dizziness	2 (2.1%)	3 (3.2%)	3 (3.2%)
Somnolence	0 (0.0%)	2 (2.1%)	2 (2.1%)
Fatigue	1 (1.1%)	5 (5.3%)	6 (6.3%)
Depression	3 (3.2%)	0 (0.0%)	0 (0.0%)
Diarrhea	9 (9.5%)	3 (3.2%)	2 (2.1%)
Nausea	4 (4.2%)	1 (1.1%)	4 (4.2%)
GERD	1 (1.1%)	4 (4.2%)	0 (0.0%)
Epistaxis	0 (0.0%)	2 (2.1%)	3 (3.2%)
Cough	2 (2.1%)	0 (0.0%)	3 (3.2%)
Nasal discomfort	0 (0.0%)	3 (3.2%)	2 (2.1%)
Rhinorrhea	1 (1.1%)	1 (1.1%)	3 (3.2%)
Throat irritation	1 (1.1%)	0 (0.0%)	3 (3.2%)
Upper resp. tract inf.	4 (4.2%)	0 (0.0%)	2 (2.1%)
Nasopharyngitis	1 (1.1%)	3 (3.2%)	1 (1.1%)
Hyperglycemia	1 (1.1%)	1 (1.1%)	3 (3.2%)
Hypoglycemia	1 (1.1%)	1 (1.1%)	3 (3.2%)

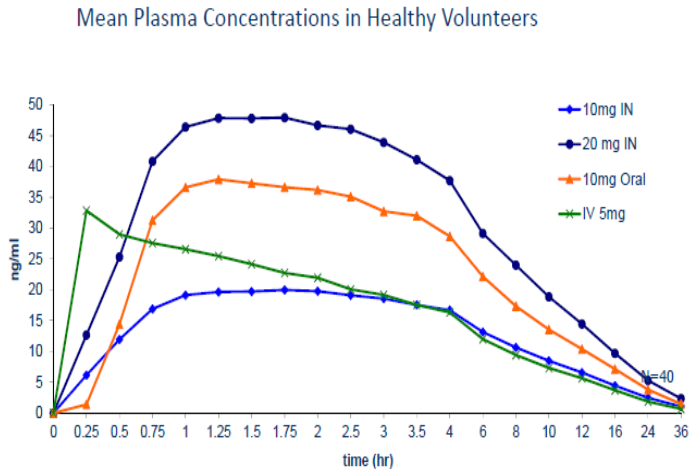
Source: Company presentation

METO-IN-002 trial design The METO-IN-002 study is a multicenter, randomized, double-blind, placebo-controlled parallel group, dose-ranging, and 287-patient (79% female) Phase IIb trial that evaluates two doses of EVK-001 (10 mg and 14 mg) vs. placebo in diabetic gastroparesis patients. Patients received a single intranasal spray four times daily (QID) and treatment duration was 28 days. The primary endpoint is change of modified Gastroparesis Cardinal Symptom Index- Daily Diary or mGCSI-DD between baseline and four week of treatment. mGCSI-DD is a patient reported outcomes instrument that records the severity of their gastroparesis symptoms, which is comprised of four symptoms (nausea, early satiety, bloating, and upper abdominal pain) with rating from zero (none) to five (very severe).

All enrolled patients were with a baseline mGCSI-DD between 2 and 4 for seven days prior to randomization. Before treatment, all patients underwent up to a 23-day screening period and a seven-day washout period.

Phase I study (METO-IN-001) An earlier Phase I randomized pharmacokinetic study (METO-IN-001) conducted in healthy volunteers at Texas Tech University Health Sciences Center has identified PK profile of single doses of intranasal metoclopramide (10 and 20 mg) vs. intravenous (IV, 5 mg) and oral metoclopramide (10 mg) (Figure 8). This is an important bridging study for the purpose of assessing PK profile of intranasal vs. oral metoclopramide (Figure 8).

Figure 8: PK Profile of Various Metoclopramide Therapies in Healthy Volunteers (METO-IN-001 Study)



Parameter* /Dose Group	N†	C_{max} (ng/mL)	T_{max} (hours)	$AUC_{(infinity)}$ (hours x ng/mL)	$t_{1/2}$ (hours)	F_{ABS}‡ (%)	F_{REL}§ (%)
5 mg IV	39	35 (46)	0.25 (0 – 1.25)	232 (40)	6.80 (26.0)	-	-
10 mg PO	39	44 (36)	1.25 (0.50 – 3.50)	397 (62)	7.12 (28.1)	78.9	-
10 mg IN	**38**	**23(56)**	**1.50 (0.50 – 3.50)**	**263 (62)**	**8.03 (27.1)**	**47.4**	**60.1**
20 mg IN	39	54 (46)	1.50 (0.75 – 3.50)	540 (57)	8.11 (30.1)	52.5	66.5

Source: Company presentation and McCallum, R. et. al., 2013 DDW presentation

Upcoming Phase III EVK-001 in diabetic gastroparesis (DG) study

Supported by robust METO-IN-002 Phase II study results, the company is in preparation for advancing EVK-001 into the Phase III pivotal study after recent discussion with the FDA. The agency suggested that a single Phase III study in women (METO IN-003) would be sufficient for regulatory filing. The FDA also suggested a small scale QT cardiac safety clinical study despite metoclopramide has been used for more than three decades. Although the Phase II study has clearly demonstrated metoclopramide is only effective in female, the FDA also suggested conducting n Phase III study (METO IN-004) to evaluate EVK-001 in male diabetic gastroparesis patient since metoclopramide

is currently used in male diabetic gastroparesis patients in real world practice. The regulatory filing for approval, however, does not require the submission of METO IN-004 study outcome.

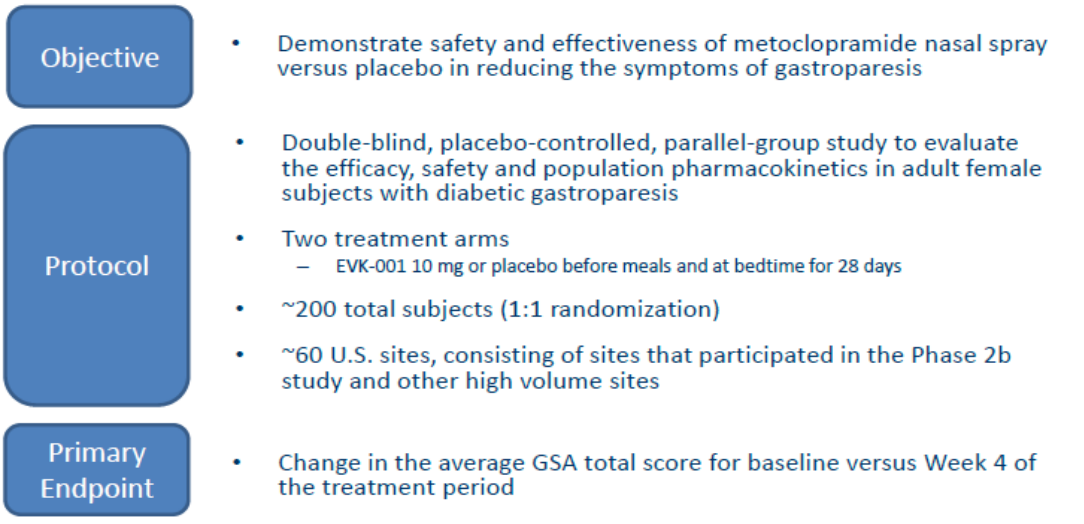
METO IN-003 study is scheduled to enrolled 200 patients equally randomized into placebo and 10 mg EVK-001. The primary endpoint is change in the average GSA total score for baseline vs. four weeks of treatment.

METO IN-003 study design The METO IN-003 study (ClinicalTrials.gov Identifier: NCT02025725) is a double-blind, placebo controlled, parallel group trial evaluating the safety and population PK in female diabetic gastroparesis patients. The study is scheduled to enrolled 200 patients equally randomized into placebo and 10 mg EVK-001. Patient will be dosed four times a day (QID) for treatment duration of four weeks. A total of 60 clinical sites will engage in the study, with many having already participated in the prior Phase IIb study. The primary endpoint is change in the average Gastroparesis Symptom Assessment (GSA) total score for baseline vs. four weeks of treatment. Secondary endpoints include population PK (Figure 9).

Similar to mGCSI-DD, GSA is also a patient reported outcomes instrument that records the severity of their gastroparesis symptoms. GSA comprises five symptoms (nausea, early satiety, bloating, upper abdominal pain, and vomiting) with rating from zero (none) to four (very severe).

The company indicated that both the METO IN-003 and METO IN-004 studies could start in 2Q14 and potentially with top-line results available in mid-2015 (possibly in 3Q15 in our estimate), of which, we believe could be a major catalyst for EVOK shares. Should the outcome be positive, as we believe it is likely, the company could file for approval possibly via a 505(b)(2) pathway in late 2H15. We estimate a potential approval could slate in late 2016 with possible product launch shortly afterward.

Figure 9: Trial Design of EVK-001 in DG Phase III (METO IN-003) Study



Source: Company presentation

Evoke has conducted retrospective post hoc analysis for the Phase IIb (METO IN-002) study results using GSA as readout with outcome very similar to the mGCSI-DD-based outcome

The company is also scheduled to start the QT cardiac safety clinical study in 2H14 with top-line results potentially available in 1H15.

Despite the primary endpoint for the Phase III study (Gastroparesis Symptom Assessment or GSA) is slightly different from that of the Phase IIb trial (modified Gastroparesis Cardinal Symptom Index-Daily Diary or mGCSI-DD), we believe the difference is very modest. Our discussion with management indicated that the company has conducted retrospective *post hoc* analysis for the

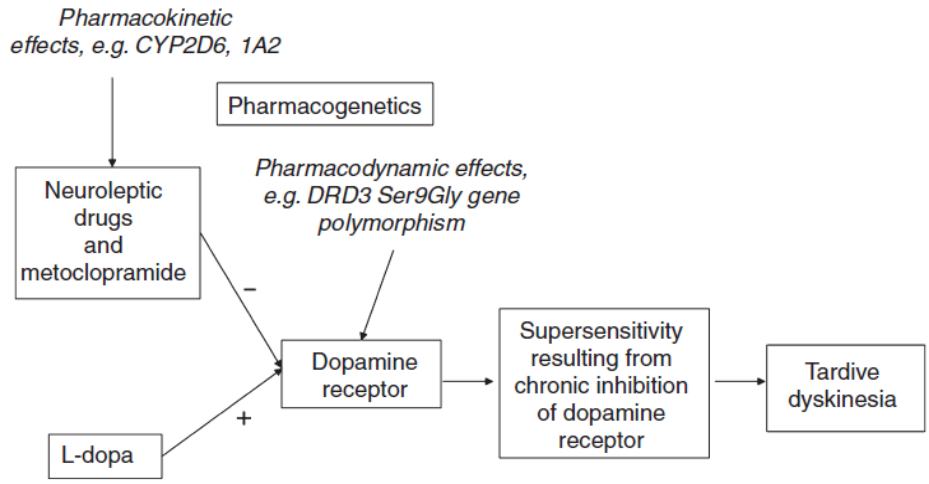
Phase IIb (METO IN-002) study results using GSA as readout with an outcome very similar to the mGCSI-DD-based outcome and with a similar positive p value as well. Again, it confirmed our analysis as the two studies could very likely to have similar positive outcomes.

If approved, EVK-001 also likely will carry a black box label of possibility of low incident of metoclopramide eliciting tardive dyskinesia

If approved, EVK-001 likely will carry a black box label of possibility of low incident of metoclopramide eliciting tardive dyskinesia. We believe it should have rather limited impact on the commercial outlook of this product

In 2009, the FDA issued a black box warning regarding long-term or high-dose use of metoclopramide because of the risk of developing tardive dyskinesia (TD). Accordingly, the FDA does not recommend a long-term use of metoclopramide and treatment duration longer than 12 weeks should be avoided. TD is a hyperkinetic movement disorder usually associated with the dopamine receptor blocking drugs (DRBD), which were used for treatments in gastroenterological, psychiatric, neurological and other CNS diseases. Metoclopramide can readily cross the blood-brain barrier. As such, it could inhibit D_2 group dopamine receptors in the brain, resulting in an imbalance of the two pathways, nigrostriatal and striatopallidal, that control movement. Hence, a chronic metoclopramide use could potentially lead to movement-related side effects (Figure 10).

Figure 10: Factors Modulating Dopamine Receptor Function That Could Lead To Manifestation of Tardive Dyskinesia



Source: Rao, A.S., et. al., Aliment Pharmacol Ther. 2010, 31: 11-19

The issuance of black box warning regarding long-term or high-dose use of metoclopramide had led to substantial decline of metoclopramide TRx in 2009 (-24%). Although the FDA studies estimated that the risk of developing TD with metoclopramide use is 1–10% after at least three months of therapy, a more recent analysis by Rao and Camilleri suggested that likely risks could be just <0.1%.[1] Given EVK-001 is a nasal delivered metoclopramide, we believe EVK-001 could also carry a black box warning, similar to that of its oral counterparts. Given the decline of oral metoclopramide TRx trend has de-accelerated and became more stable after 2009, we believe a potential black label warning for EVK-001 should have rather limited impact on the commercial outlook of this product. Further, since metoclopramide is indicated for diabetic gastroparesis

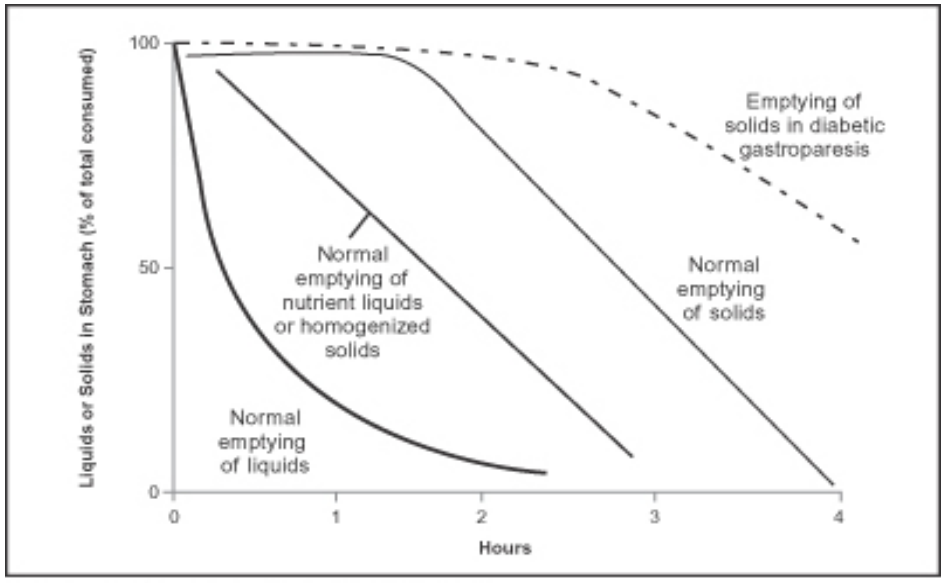
[1] *Rao, A.S. and Camilleri, M., Aliment Pharmacol Ther. 2010, 31: 11-19*

and symptomatic gastroesophageal reflux, we believe substantial prescription reduction could come from symptomatic gastroesophageal reflux treatment since several new treatments have developed in recent years.

Gastroparesis treatment landscape

Gastroparesis or gastric stasis, is a debilitating, chronic condition with delayed gastric emptying (Figure 11). The contraction movement (peristalsis) that moves food from stomach into the small intestine for further digestion is controlled by a vagus nerve system called Migrating Myoelectric Complex (MMC). Gastroparesis occurs when the vagus nerve is impaired resulting in less effective muscles of the stomach and intestines. Consequently, food movement slows down or stops through the digestive tract. Clinically, gastroparesis could manifest through a set of largely non-specific symptoms, which include early satiety, bloating, nausea, anorexia, vomiting, abdominal pain, and weight loss.

Figure 11: Timing Associated With Gastric Emptying of Healthy and Gastroparesis Patients



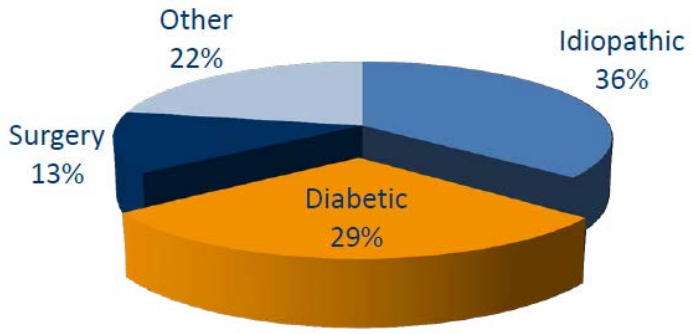
Source: Company presentation

There are multiple etiologies that cause gastroparesis, which include diabetes mellitus, postsurgical, idiopathic and other miscellaneous causes

There are multiple etiologies that cause gastroparesis (Figure 12), which include diabetes mellitus, postsurgical, idiopathic and other miscellaneous causes. In diabetic patient, after 10-20 years of clinically apparent diabetes, 40% of type I diabetes and up to 30% of type II diabetes could develop gastroparesis. It is estimated that approximately 29% of gastroparesis cases were caused by diabetes. Diabetic gastroparesis usually with a cyclical waxing and waning of their symptoms; and usually does not resolve.

Approximately one-third of patients with delayed gastric emptying lack identifiable cause and therefore, has been classified as idiopathic. It is reported that 30-50% of idiopathic gastroparesis patients may have a prior history of a viral illness. Diagnosis of patients with idiopathic gastroparesis could be challenging since the illness may easily be overlooked unless symptoms are more severe.

Figure 12: Etology Breakdown of Gastroparesis



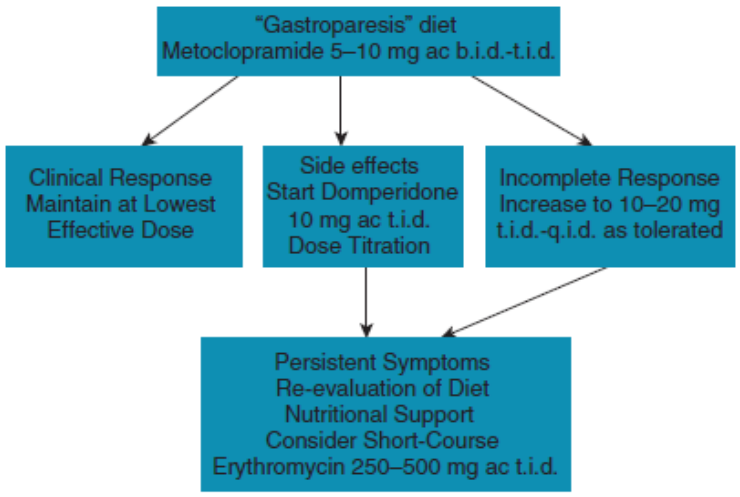
Source: Company presentation

Gastroparesis patients due to postsurgical complication account for approximately 15% of total patient population. For example, it is estimated that nearly 5% of patients who undergo vagotomy for surgical correction for peptic ulcer disease or malignancy could develop symptoms of gastroparesis. Miscellaneous conditions that could lead to gastroparesis include scleroderma, neurologic diseases, psychiatric diseases and endocrine and metabolic disorders. Whether gastroparesis symptoms of the postsurgical origin could be resolved mainly depend on the type and extensiveness of the surgery.

Further, it is estimated that near 80% of all patients diagnosed with gastroparesis are female.

Although metoclopramide is the only drug approved for the treatment of gastroparesis in the U.S., several other drugs have been used in real world practice as additional treatment modalities. These medications include erythromycin and domperidone (Motilium); while the latter is not commercially available in the U.S., but only can be prescribed in the U.S. via investigational new drug clearance from the FDA. Figure 13 illustrates clinical guidelines for management of gastroparesis provided by the American Colleges of Gastroenterology.

Figure 13: Algorithm of Gastroparesis Treatment



Source: Camilleri, M., et. al., Am J Gastroenterol.2013, 108: 18-37.

For drug treatment, metoclopramide is the first-line treatment at 5 to 10 mg four times a day. Domperidone and erythromycin (primarily over a short term) have been used off-label when metoclopramide treatment is inadequate. Metoclopramide treatment could be up-titrated to higher dose if low standardized dose cannot control symptoms. Erythromycin is a motilin receptor agonist; while domperidone is a peripheral dopamine (D_2) and (D_3) receptor antagonist. Antiemetic and centrally acting antidepressants also have been used for symptom modulators.

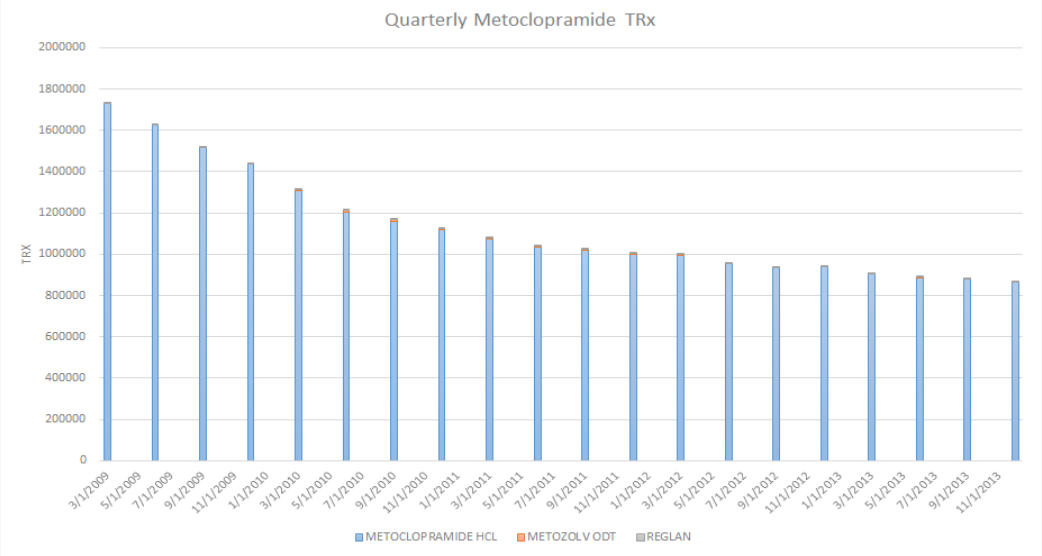
In addition to drug treatment, a medical device called gastric electrical stimulation (GES) could be used to relieve symptoms, such as weekly vomiting frequency. GES was approved under humanitarian device exemption by the FDA.

Metoclopramide in gastroparesis treatment

Oral metoclopramide is the mainstay for gastroparesis treatment and currently, greater than 99% of metoclopramide prescriptions (TRx) are of generic products.

Oral metoclopramide is the mainstay for gastroparesis treatment since 1979. Currently, greater than 99% of metoclopramide prescriptions (TRx) are of generic products. Over the last five years, metoclopramide TRx were in continued decline after the FDA requested all versions of the drug need to put a "black box" label due to the low propensity of developing tardive dyskinesia in 1Q09. Figure 14 illustrates the oral metoclopramide TRx trend since 2009.

Figure 14: Quarterly Metocloparamide TRx of Last Five Years (2009 – 2013)

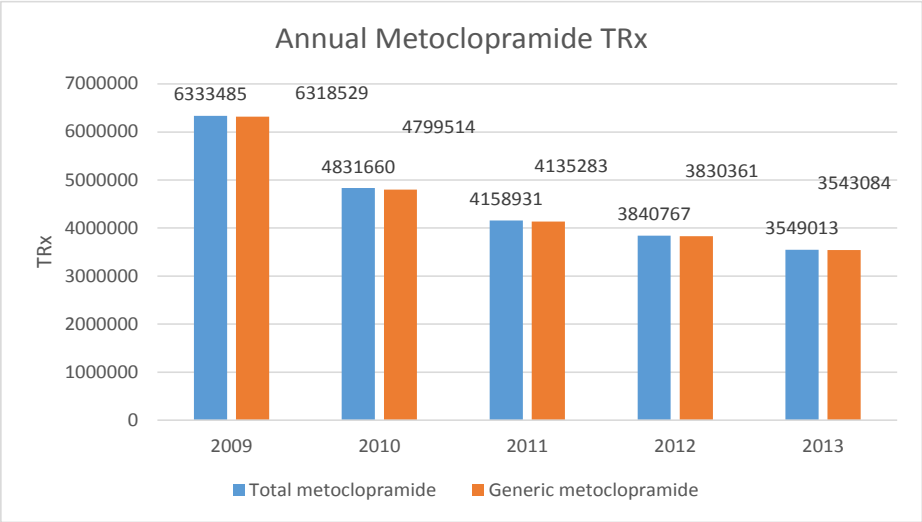


Source: Bloomberg and Laidlaw & Company

Figure 15 illustrates that overwhelming majority of oral metoclopramide TRx were generic products. It is also noted that that after substantial decline of TRx from 2009 to 2010 (-24%), the pace of reduction has decelerated. In addition to generic oral products, few other forms of metoclopramide are also available. Branded Metozolv ODT (orally disintegrating tablets) is marketed by Salix Pharmaceuticals (SLXP – NR) but only has generated an immaterial level of revenue given the product lacks meaningful differentiation from generic oral metoclopramide. Although Metozolv ODT can dissolve quickly in the mouth, the drug does not absorb by buccal membrane. As such, it might not have a

sufficient additional benefit for gastroparesis patients particularly with frequent vomiting symptoms.

Figure 15: Annual Metoclopramide TRx vs. Generic Metoclopramide TRx



Source: Bloomberg and Laidlaw & Company

Further, intravenously administrated metoclopramide (mainly generic products) are used principally in hospital or medical institutions for severe gastroparesis patients for acute episode relief.

Unmet need of the gastroparesis treatment market could welcome a best-in-class treatment

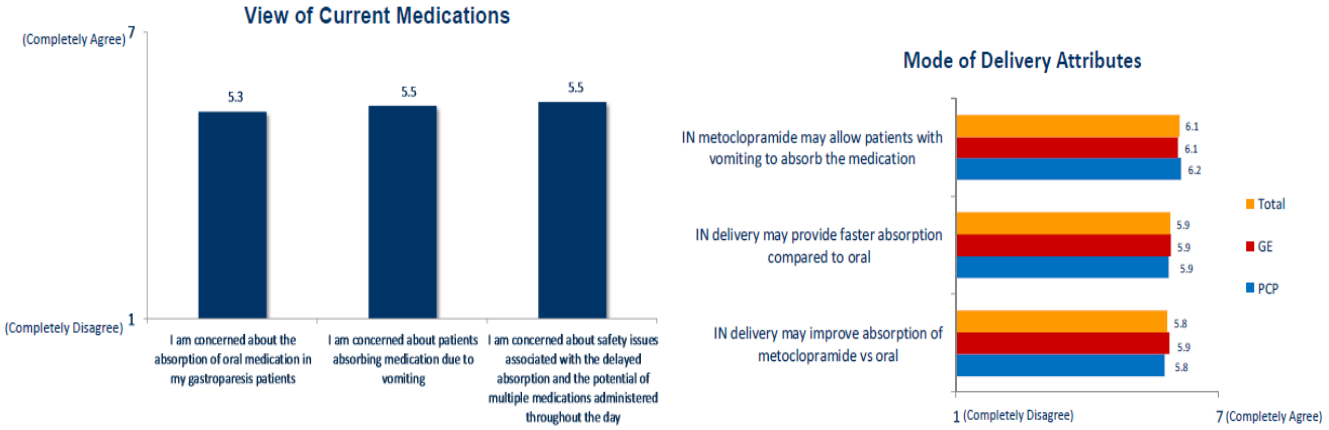
Despite EVK-001's obvious benefit potentially to resolve the shortcoming of oral metoclopramide, it remains important to gain some insight as to whether major stakeholders in gastroparesis treatment, namely physicians, patients and payers, might want a new treatment option. Evoke commissioned a commercial market research organization to assess the potential commercial outlook of EVK-001 to be judged by different stakeholders. The analysis suggested that physicians were not satisfied with current gastroparesis treatment selections and look for other options (Figure 16, left). Specifically, inadequate absorption of drug especially due to vomiting has been the major issue.

Market research showed that various types of physicians have ranked the product attributes of EVK-001 highly as a potential gastroparesis treatment

Further, various types of physicians have ranked the product attributes of EVK-001 highly as a potential gastroparesis treatment (Figure 16, right). In addition, another survey on gastroparesis patients suggested significant preference for taking a treatment with product offering like EVK-001.

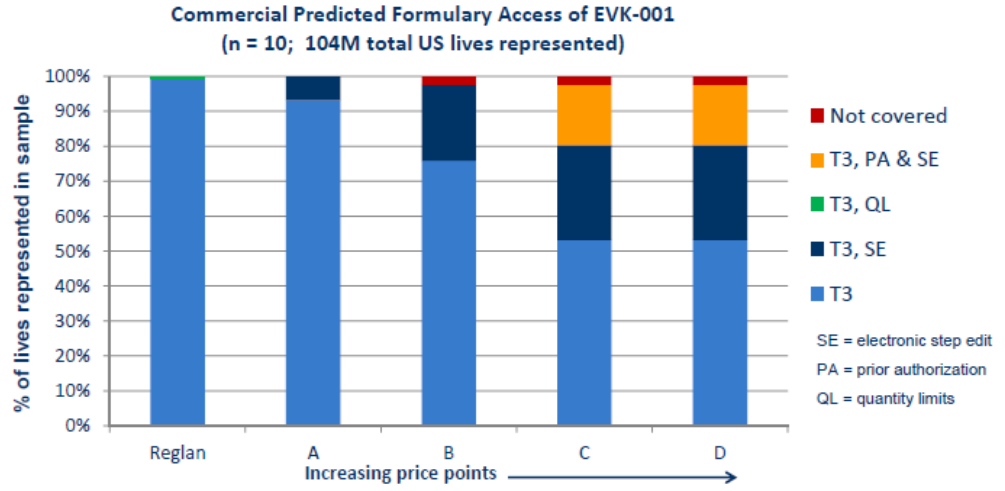
In addition, the market research firm conducted a separate survey among payers on the pricing elasticity of a metoclopramide -based gastroparesis treatment with EVK-001-like product attributes under various formulary options. The study illustrated that with various levels of price increases, EVK-001 could still potentially retain substantial market share with additional constraints, such as electronic step edit, prior authorization and quantity limits (Figure 17).

Figure 16: Market Analysis for Potential Gastroparesis Treatment Product Could Fulfill Unmet Need



Source: Company presentation

Figure 17: Survey Results on Payer Reimbursement Under Different Pricing Options



Source: Company presentation

Given the gastroparesis treatment market is overwhelmingly dominated by generic medications, the option of having certain pricing elasticity would be critical for a positive commercial outlook of newly developed product. The positive payer survey outcome, in our opinion, is encouraging. Given that the product attribute of EVK-001 is substantially different from other gastroparesis therapies, and treatment effect of metoclopramide is well established, we believe EVK-001 could be priced at a premium and the clinical outcome of the upcoming Phase III study could play a critical role in determining future pricing.

EVK-001 in gastroparesis market model

We build our EVK-001 in gastroparesis market model from a top down patient prevalence driven approach and supplement by an analysis according to the oral metoclopramide TRx trend. For diabetic gastroparesis (DG) patient population, we estimate approximately 1.4 million patients in the U.S. and 1.15 million female patients are eligible for EVK-001 treatment. Based on the estimate that

DG accounts for 29% of total gastroparesis patients, we estimate gastroparesis caused by other causes are of approximately 3.5 million. Since all gastroparesis patients have been treated by metoclopramide even though the drug was approved only for DG, we anticipate EVK-001 will be eligible for treating gastroparesis of all etiologies.

Supported by differentiated product attributes compared to all other marketed metoclopramide, we assume EVK-001 could be priced at a premium of $8.50 per day and conservative annual expenses of $678 assuming average 10.8 weeks treatment duration. With penetration in both the diabetic and non-diabetic gastroparesis patient population, we estimate potential annual peak sales of approximately $320+MM. We estimate an 8.7% market share based on total EVK-001 eligible gastroparesis patient population (Figure 18).

we estimate EVK-001 potential annual peak sales of ~ $320+MM. We estimate an 8.7% market share based on total EVK-001 eligible gastroparesis patient population.

Alternatively, we also model penetration based on severity of gastroparesis. It is estimated that approximately two-third of gastroparesis patients are in the mild-to-moderate category while the remaining are under moderate-to-severe category or approximately 1.4 million patients. Given EVK-001 is likely be priced at a premium with its differentiated offering, it is logical to assume that the drug is more likely to be preferentially prescribed, at least initially, to the severe patients. As such, our EVK-001 peak sale figure potentially accounts for ~25% penetration solely within the moderate-to-severe gastroparesis population without revenue contribution from the less severe patients.

Figure 18: EVK-001 in Gastroparesis Market Model

EVK-001 in Gastroparesis Revenue Model	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Total population (U.S)	324,053,082	326,337,656	328,638,336	330,955,237	333,288,471	335,638,155	338,004,404	340,387,335	342,787,066	345,203,714	347,637,401	350,088,244	352,556,366	355,041,889	357,544,934
Diagnosed diatetes	19,345,969	19,482,358	19,619,709	19,758,028	19,897,322	20,037,598	20,178,863	20,321,124	20,464,388	20,608,662	20,753,953	20,900,268	21,047,615	21,196,001	21,345,433
Un-diagnosed diatetes	7,193,978	7,244,696	7,295,771	7,347,206	7,399,004	7,451,167	7,503,698	7,556,599	7,609,873	7,663,522	7,717,550	7,771,959	7,826,751	7,881,930	7,937,498
Diatetic Gastroparesis population	1,441,275	1,451,436	1,461,668	1,471,973	1,482,350	1,492,801	1,503,325	1,513,924	1,524,597	1,535,345	1,546,169	1,557,070	1,568,047	1,579,102	1,590,235
Female diatetic Gastroparesis population	1,153,020	1,161,149	1,169,335	1,177,578	1,185,880	1,194,241	1,202,660	1,211,139	1,219,678	1,228,276	1,236,936	1,245,656	1,254,438	1,263,282	1,272,188
% share	0.5%	1.8%	4.9%	7.6%	10.8%	13.2%	15.7%	16.0%	16.2%	16.1%	15.9%	15.7%	15.3%	15.0%	14.6%
EVK-001 treated DG patient	5,880	21,249	57,064	89,378	127,838	157,640	188,216	193,782	197,588	198,060	196,673	195,568	191,929	189,492	185,739
Total gastroparesis population	4,969,913	5,004,951	5,040,236	5,075,769	5,111,553	5,147,590	5,183,880	5,220,427	5,257,231	5,294,294	5,331,619	5,369,207	5,407,060	5,445,180	5,483,568
Non-diabetic gastroparesis population	3,528,638	3,553,515	3,578,567	3,603,796	3,629,203	3,654,789	3,680,555	3,706,503	3,732,634	3,758,949	3,785,449	3,812,137	3,839,012	3,866,077	3,893,333
Non-diabetic female gastroparesis population	2,822,910	2,842,812	2,862,854	2,883,037	2,903,362	2,923,831	2,944,444	2,965,202	2,986,107	3,007,159	3,028,360	3,049,709	3,071,210	3,092,862	3,114,667
% share	0.0%	0.5%	1.1%	2.1%	3.0%	4.1%	4.8%	5.4%	5.6%	5.7%	5.5%	5.3%	5.2%	5.0%	4.7%
EVK-001 treated non-DG patient	0	15,351	31,205	60,255	87,101	119,234	141,922	161,218	167,610	171,408	166,560	162,854	160,624	154,643	147,542
Total EVK-001 eligible gastroparesis populatic	3,975,930	4,003,960	4,032,188	4,060,615	4,089,243	4,118,072	4,147,104	4,176,341	4,205,785	4,235,435	4,265,295	4,295,365	4,325,648	4,356,144	4,386,854
% of EVK-001 treated / eligible	0.1%	0.9%	2.2%	3.7%	5.3%	6.7%	8.0%	8.5%	8.7%	8.7%	8.5%	8.3%	8.2%	7.9%	7.6%
EVK-001 treated patient	5,880	36,600	88,269	149,634	214,939	276,874	330,139	355,000	365,198	369,468	363,233	358,422	352,553	344,135	333,281
Annual Price/ Rx	$678	$701	$725	$750	$775	$802	$829	$857	$886	$916	$948	$980	$1,013	$1,048	$1,083
Total Sales U.S. ($ MM)	**$4.0**	**$25.7**	**$64.0**	**$112.2**	**$166.7**	**$222.0**	**$273.7**	**$304.3**	**$323.7**	**$338.6**	**$344.2**	**$351.2**	**$357.2**	**$360.5**	**$361.0**

Source: Laidlaw & Company estimates

We also have used the oral metoclopramide TRx to project the potential EVK-001 TRx trend (Figure 19). We assume each patient takes an average of 2.7 prescriptions annually; and major commercial opportunity for EVK-001 is mainly to replace other oral metoclopramide.

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Figure 19: EVK-001 in Gastroparesis Market Model Based on Metoclopriamide TRx Usage

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Generic metoclopramide	6,318,529	4,799,514	4,135,283	3,830,361	3,543,084	3,437,182	3,385,781	3,372,237	3,335,143	3,298,456	3,206,099	3,087,474	2,948,537	2,842,390	2,771,330	2,726,989	2,707,900
% of total	*99.8%*	*99.3%*	*99.4%*	*99.7%*	*99.8%*	*99.8%*	*99.8%*	*99.4%*	*97.0%*	*93.2%*	*88.8%*	*84.3%*	*79.9%*	*76.3%*	*74.5%*	*73.6%*	*73.3%*
Y/Y		*-24%*	*-14%*	*-7%*	*-7%*	*-3%*	*-1%*	*0%*	*-1%*	*-1%*	*-3%*	*-4%*	*-5%*	*-4%*	*-3%*	*-2%*	*-1%*
Branded metoclopramide	14,956	32,146	23,648	10,406	5,929	5,361	5,124	20,620	102,215	239,584	402,748	576,399	741,086	882,711	948,793	975,861	987,161
	0.2%	*0.7%*	*0.6%*	*0.3%*	*0.2%*	*0.2%*	*0.2%*	*0.6%*	*3.0%*	*6.8%*	*11.2%*	*15.7%*	*20.1%*	*23.7%*	*25.5%*	*26.4%*	*26.7%*
Y/Y		*115%*	*-26%*	*-56%*	*-43%*	*-10%*	*-4%*	*302%*	*396%*	*134%*	*68%*	*43%*	*29%*	*19%*	*7%*	*3%*	*1%*
Metozolv	1,236	24,517	19,674	7,376	3,445	3,101	2,976	2,917	2,859	2,830	2,802	2,774	2,746	2,719	2,691	2,664	2,638
% of total	*0.0%*	*0.5%*	*0.5%*	*0.2%*	*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%*
Y/Y		*1884%*	*-20%*	*-63%*	*-53%*	*-10%*	*-4%*	*-2%*	*-2%*	*-1%*	*-1%*	*-1%*	*-1%*	*-1%*	*-1%*	*-1%*	*-1%*
Reglan	13,720	7,629	3,974	3,030	2,484	2,260	2,147	2,062	2,000	1,960	1,920	1,888	1,856	1,824	1,800	1,770	1,740
% of total	*0.2%*	*0.2%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.1%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Y/Y		*-44%*	*-48%*	*-24%*	*-18%*	*-9%*	*-5%*	*-4%*	*-3%*	*-2%*	*-2%*	*-2%*	*-2%*	*-2%*	*-1%*	*-2%*	*-2%*
EVK-001								**15,642**	**97,357**	**234,795**	**398,026**	**571,737**	**736,484**	**878,168**	**944,301**	**971,427**	**982,784**
% of total								*0.5%*	*2.8%*	*6.6%*	*11.0%*	*15.6%*	*20.0%*	*23.6%*	*25.4%*	*26.2%*	*26.6%*
Y/Y									*522%*	*141%*	*70%*	*44%*	*29%*	*19%*	*8%*	*3%*	*1%*
Total metoclopramide	6,333,485	4,831,660	4,158,931	3,840,767	3,549,013	3,442,543	3,390,904	3,392,858	3,437,358	3,538,041	3,608,847	3,663,872	3,689,623	3,725,101	3,720,123	3,702,850	3,695,062
Y/Y		*-24%*	*-14%*	*-8%*	*-8%*	*-3%*	*-2%*	*0%*	*1%*	*3%*	*2%*	*2%*	*1%*	*1%*	*0%*	*0%*	*0%*

Source: Laidlaw & Company estimates

Solid intellectual property protection for EVK-001

Evoke has a solid intellectual property estate, which includes four issued and one pending U.S. patent applications for EVK-001 (Figure 20). In addition, the company indicated that they continue to seek protection of its proprietary technologies aggressively.

Figure 20: Major EVK-001 Patents (Issued and Pending)

U.S. Granted Patents		
Patent #	U.S. 6,770,262	U.S. 8,334,281
Title	Nasal Administration of Agents for the Treatment of Gastroparesis	Nasal Formulations of Metoclopramide
Expires	2021	2030

PCT Application	
Application #	PCT/US2012/052096
Title	Treatment of Symptoms Associated with Female Gastroparesis
Expires	2032 (if granted)

Source: Company presentation

Key issued and pending patents include:

- U.S. Patent No. 6,770,262, which provides coverage for the nasal administration of agent for treatment of gastroparesis. This patent will expire in 2021;

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- U.S. Patent No. 8,334,281, which provides coverage of nasal formulation of metoclopramide. This patent will expire in 2030;
- In addition, the company also has two issued foreign patents covering method of use; and
- One pending U.S. patent application regarding treatment of symptom associated with female gastroparesis patients.

Limited competition in gastroparesis treatment

The competitive landscape for gastroparesis drug development is rather limited. Several in-development products include: RM-131 of Rhythm Therapeutics (private); GSK962040 of GlaxoSmithKline (GSK – NR); TD-5108 (Velusetrag) of Theravance (THRX – NR); and Prucalopride mainly in a small clinical study in Canada (Figure 21).

Figure 21: Gastroparesis Treatment Products in Development

Product	Class	Route	Company	Development Status
RM-131	Ghrelin agonist	Sub-Cutaneous	Rhythm Therapeutics (private)	Phase II
GSK962040	Motilin agonist	Oral	GlaxoSmithKline (GSK)	Phase IIa
TD-5108 (Velusetrag)	5-HT4 agonist	Oral	Theravance (THRX)	Phase IIa
EVK-001	Dopamine antagonist /mixed 5-HT3 antagonist /5-HT4 agonist	Intranasal	Evoke Pharma (EVOK)	Phase III Ready
Prucalopride	5-HT4 receptor agonist	Oral	In Canada	Phase II

Source: Laidlaw & Company and Company presentation

RM-131 This subcutaneously administrated ghrelin agonist is developed by privately owned Rhythm Therapeutics. Produced by the gut, ghrelin is a peptide hormone that plays a central role in feeding regulation, nutrient absorption, GI motility, and energy homeostasis. Rhythm initiated a Phase II study in 2Q12. The study expected to enroll approximately 125 patients for assessing various dosing regimens (10 to 100 mg) for a treatment period of one month. RM-131 is also under a Phase II study as a potential treatment of chronic constipation.

AN oral ghrelin agonist TZP-102, developed by now defunct Tranzyme Pharma, has failed two Phase IIb studies as a treatment for diabetic gastroparesis in 4Q12. Although we do not have any insight to the chemical structure of RM-131 comparing to TZP-102, risks for ghrelin as a clinically validated potential molecular target for gastroparesis treatment might have increased.

GSK962040 (camicinal) It is an orally administrated selective non-peptide motilin receptor agonist developed by GlaxoSmithKline (GSK – NR) currently is under a Phase II study in delayed gastric emptying. Mediated by motilin receptors (located on enteric neurons, peripheral terminals of the vagus, and on

stomach smooth muscle, motilin from duodenum has the potential to accelerate gastric emptying.

Erythromycin, a motilin receptor agonist, currently is used off-label administrated either orally or intravenously as a treatment of gastroparesis. Erythromycin is relatively effective but has the drawback of adverse interactions with many medications; and development of drug resistant after several weeks of use (tachyphylaxis). Erythromycin also has high propensity for induction of nausea and vomiting.

TD-5108 (Velusetrag) This is an orally administrated, once-daily 5-HT4 receptor agonist as a potential gastroparesis treatment developed by Theravance (THRX –NR) and Alfa Wassermann. Both companies indicated to commence a Phase IIb study later in 2014. An earlier Phase II study (0093) in gastroparesis exhibited encouraging results. The randomized, double-blind and placebo-controlled study enrolled 34 gastroparesis patients (18 diabetics and 16 idiopathic) with treatment of three doses TD-5108 (5, 10 and 15 mg). The primary endpoint of the study is proportion of patients with $\geq$ 20% improvement in gastric emptying. The results indicated only the 30 mg treatment met the primary endpoint (52% with $p<0.001$).

Prucalopride This is a selective, high affinity 5-HT4 receptor agonist developed by Johnson & Johnson (JNJ – NR) with approval in Europe and Canada for the symptomatic treatment of chronic constipation. Prucalopride has not being approved in the U.S. The drug is under a small (n=30) Phase II study in diabetic gastroparesis in Canada.

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Financial Projections and Valuation

The company issued an initial public offering (IPO) in October 2013 with 2.4 million shares at $12 per share and collected gross total of $28.9 MM. During the 4Q13 quarterly conference call, management indicated the cash position was of $24.4 MM. As such, we believe the company's cash could support the operation into late 2H15. We believe the company could elect to raise additional capital after the report of EVK-001 Phase III outcome for potential commercialization by the company's own effort or establishment of a stronger position for partnering negotiation.

We rate Evoke Pharma Buy with a 12-month valuation on EVOK shares of $19. Given the company has not generated product revenue and not yet profitable, we have employed three different methodologies for valuation: NPV, P/S and comparable analysis (Figures 22 - 25).

Our cash-driven NPV analysis incorporated net cash from 2015 to 2025 at a discounted rate of plus the projected cash in 3Q15 and derived a 12-month target price of $19.17.

Figure 22: Evoke Cash Flow from 2014 to 2025

Cash driven NPV	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EVK-001 sales	0	0	3,989	25,670	64,013	112,205	166,655	221,976	273,679	304,295	323,679	338,597
Cost of goods sold	0	0	359	2,310	5,761	10,098	14,999	19,978	24,631	27,387	29,131	30,474
R&D	10,790	9,711	4,953	4,210	3,999	4,119	4,243	4,370	4,501	4,636	4,775	4,918
SG&A	4,922	6,168	21,185	52,697	55,580	59,117	62,294	64,481	66,755	69,122	71,586	74,150
Operating income	(15,712)	(15,879)	(22,508)	(33,547)	(1,327)	38,870	85,120	133,147	177,791	203,150	218,187	229,055
Net income	(15,887)	(16,073)	(22,674)	(33,766)	(1,035)	26,250	57,701	86,375	115,395	131,879	141,655	148,721
Period	0.0	0.7	1.7	2.7	3.7	4.7	5.7	6.7	7.7	8.7	9.7	10.7
NPV	(15,887)	(14,379)	(17,336)	(22,066)	(578)	12,532	23,543	30,122	34,395	33,597	30,844	27,678

Source: Laidlaw & Company estimates

Figure 23: Evoke Cash-Driven NPV

Total DCF	138,354
Terminal value	80,266
Cash (3Q15)	7,000
Total valuation ($ '000)	225,619
Value per share	**$19.17**
Share outstanding (2015)	11,771
Discount rate	17%
Terminal value multiple	3

Source: Laidlaw & Company estimates

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We also used P/S analysis to evaluate EVOK since the company could generate product revenue within the next three year but not yet be cash positive shortly. We have used a peer group comprised of companies with gastroenterological products. By analyzing forward projected revenue of 2016 and beyond, we have derived a P/S multiple of 11.6 and 6.1 for 2016 and 2017, respectively.

Figure 24: Biopharmaceutical Companies with GI focus Used as Comparable for P/S Analysis

Company	Ticker	Rating	MC ($MM)	Rev. ('16)	P/S-'16	Rev. ('17)	P/S-'17
Ironwood Pharmaceuticals	IRWD	NR	1290	304	4.2	432	3.0
Ocera Therapeutics	OCRX	NR	132	18	7.2	97	1.4
Synergy Pharmaceuticals	SGYP	NR	405	16	25.2	77	5.3
Salix Pharmaceuticals	SLXP	NR	6400	2,084	3.1	2,380	2.7
Ventrus Biosciences	VTUS	NR	26	22	1.1	NA	NA
Sucampo Pharmaceuticals	SCMP	NR	297	170	1.7	190	1.6
Intercept Pharmaceuticals	ICPT	NR	4750	103	46.1	238	20.0
Galectin Therapeutics	GALT	NR	230	20	11.5	20	11.5
NPS Pharmaceuticals	NPSP	NR	2576	635	4.1	814	3.2
				Average =	**11.6**		**6.1**

Source: Bloomberg and Laidlaw & Company estimates

Figure 25: P/S Analysis with GI Focus Companies as Comparable Peers

	2016	2017	2018	2019	2020
Total revenues ($MM)	4.0	25.7	64.0	112.2	166.7
Forward sales multiple	11.6 x	6.1 x	5.9 x	5.7 x	5.5 x
Discount periods	1.7	2.7	3.7	4.7	5.7
Discount rate	17%	17%	17%	17%	17%
PV	35	102	210	304	372
Cash in 2015	7	7	7	7	7
Total value	42	109	217	311	379
Shares in 2015	11.8	11.8	11.8	11.8	11.8
Valuation	3.60	9.24	**18.42**	26.39	37.58

Source: Bloomberg and Laidlaw & Company estimates

In our P/S analysis, we have elected to use our estimated sales in 2018 as our base for valuation since this would be the year that EVK-001 sales start to become more predictable if the projected initial launch is in late 2016. Our projected target price is $18.42.

For our comparable analysis, we have identified a peer group comprised of clinical development stage companies with focus on gastroenterological products in their pipeline and derived a 12-month target price of $21.94.

Together, by further analyzing the value derived from different methods, we derived a blended and more conservative one-year price target of **$19** for EVOK.

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Figure 26: Comparable Analysis

Company	Ticker	Rating	Target Price ($)	Price ($) (4/15/14)	Shares Outstanding (MM)	Market Cap ($ MM)	Cash ($ MM)	Debt ($ MM)	Tech Value ($ MM)
Ocera Therapeutics	OCRX	NR	NA	8.24	15	127	47	0	80
Sucampo Pharmaceuticals	SCMP	NR	NA	6.83	43	292	86	26	232
Soligenix, Inc.	SNGX	NR	NA	2.09	20	41	6	0	36
RedHill Biopharma	RDHL	NR	NA	14.15	9	124	12	0	112
Galectin Therapeutics	GALT	NR	NA	10.92	22	239	38	0	202
Ventrus Biosciences	VTUS	NR	NA	1.05	23	25	27	0	-2
Average						241	*54*	*5*	110
Evoke Pharma	**EVOK**	**Buy**	**19.00**	**7.01**	**6**	**43**	**24**	**0**	**19**

EVOK share fair value matching its Phase III peers = $21.94

Source: Laidlaw & Company estimates

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Major Risks

Failures of upcoming clinical studies Although EVK-001 has demonstrated promising efficacy and a satisfactory safety profile from prior Phase II studies in diabetic gastroparesis, there is no assurance that the upcoming Phase III clinical study can demonstrate efficacy and safety profiles satisfactory enough for gaining clinical approval. Given the clinical study successes are the biggest near-term hurdle to be overcome before EVK-001 can be advanced into commercialization, clinical study failure could significantly impair the value of the company's asset and shareholder value. Overall, we view clinical risks of EVK-001 is more modest comparing to Phase III studies of other biotech companies.

EVK-001 may not reach anticipated sales. Although EVK-001 has illustrated promising efficacy and safety profiles, the sales potential could fall short of our forecasts. It is difficult to project more accurately the sales potential of EVK-001 in gastroparesis given the market is relatively mature and is dominated by generic products. Although the assumption that EVK-001 could bypass the hurdle of slow gastric emptying and vomiting to afford more effective drug availability, the actual clinical performance from Phase III study could potentially determine physician acceptance for the drug as well as the company's flexibility to price the drug. The lack of a large size comparative clinical study for EVK-001 vs. oral metoclopramide with superior outcome could also slow down the initial market penetration.

Lack of diversified product portfolio increases risk if EVK-100 failed. Since Evoke only has only one product in development and without other prospects on their pipeline, EVOK shareholder has very limited option to hedge their risk of owning the stock. As such, any mishap or failure of EVK-001 development could significantly reduce the value of EVOK shareholders.

Additional financing could dilute shareholder value. Regardless of whether or not the company forges additional collaborations with partners to generate non-dilutive revenue to support operation, it is likely that Evoke may need to provide offerings to raise cash from investors to fund its operations, especially if the company needs to commercialize EVK-001 by themselves. As such, the share value for existing investors could be diluted. Further, if the company cannot raise equity capital at more favorable terms, the share value of current shareholder could be further impaired.

Limited trading liquidity limits shareholder options. Given daily trading volume and name recognition of EVOK shares are relatively modest, some investor could be hesitate to own the shares as relatively illiquid trading volume could face constraints if they want to increase or reduce their positions in a volatile stock market.

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Management

Dave Gonyer – President & CEO. Mr. Gonyer founded Evoke Pharma, and assumed the role of President and CEO since 2007. Prior to joined in Evoke, Mr. Gonyer served as Vice President, Strategic and Product Development of Medgenex, Inc., a subsidiary of Victory Pharma, Inc. from 2004 to 2007. From 2000 to 2004, Mr. Gonyer was a founder and Vice President of Sales and Marketing at Xcel Pharmaceuticals, Inc. Prior, Mr. Gonyer served as Director of Marketing at Elan/Dura Pharmaceuticals from 1996 to 2000. From 1987 to 1996, Mr. Gonyer held a broad range of management positions in commercial operations, alliance/partnership management, and regional sales at Eli Lilly & Company. Mr. Gonyer received a B.Sc. in Pharmacy from Ferris State University School of Pharmacy.

Matt D'Onofrio – Chief Business Officer. Mr. D'Onofrio co-founded Evoke Pharma and has served as Executive Vice President, Chief Business Officer since 2010 and Corporate Development, Treasurer and Secretary since 2007. Prior to founding Evoke, Mr. D'Onofrio was Vice President, Business Development for Victory Pharma from 2002 to 2005. Prior, Mr. D'Onofrio was Director and Head of West Coast Business Development at Vertex Pharmaceuticals. Prior, Mr. D'Onofrio held various commercial roles of increasing responsibility over a decade at Eli Lilly & Company. Mr. D'Onofrio received a B.S. from San Diego State University and an M.B.A from the Marshall School of Business, University of Southern California.

Marilyn R. Carlson, D.M.D., M.D. –Chief Medical Officer. Dr. Carlson joined in Evoke as chief medical officer since December 2013. Dr. Carlson has worked closely with Evoke since 2007. Prior, she founded Agility Clinical, Inc., a CRO, and entreMeDica. Prior, Dr. Carlson has held senior medical, regulatory, and/or clinical positions at Synteract, Inc., Prometheus Laboratories, Inc., XOMA (US) LLC, and Procter & Gamble. Dr. Carlson received a D.M.D. from the Harvard School of Dental Medicine and an M.D. from Case Western Reserve University.

Wayne Alves, Ph.D. –Senior Director of Clinical Operations. Dr. Alves joined in Evoke as senior director of clinical operations since December 2013. Prior joining Evoke, he was President and Principal Consultant of Sage Clinical Development, LLC. Previously, he held senior project leadership and research positions at Cadence Pharmaceuticals, Inc., Valeant Pharmaceuticals, Xcel Pharmaceuticals, Inc. (acquired by Valeant), DevCo Pharmaceuticals and INC Research Inc. Prior, he has held Associate and Assistant Professorships at The University of Virginia, University of Pennsylvania and University of North Carolina at Chapel Hill. Dr. Alves received a Ph.D. from the University of Massachusetts, Amherst.

Figure 27: Income Statement

Evoke Pharma – Income Statement

($'000)	2011	2012	1Q13	2Q13	3Q13	4Q13	2013	1Q14E	2Q14E	3Q14E	4Q14E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Revenue																		
EVK-001 sales														3,989	25,670	64,013	112,205	166,655
Product royalty revenue			-	-	-	-	0		-	-	-	0	0	0	0	0	0	0
Total revenue	0	0	-	-	-	-	0		-	-	-	0	0	3,989	25,670	64,013	112,205	166,655
Costs of goods														359	2,310	5,761	10,098	14,999
Research and development	1,844	1,166	180	62	79	636	957	955	2,520	3,402	3,913	10,790	9,711	4,953	4,210	3,999	4,119	4,243
General and administrative	571	837	191	103	407	944	1,645	1,067	1,195	1,279	1,381	4,922	5,168	5,685	6,197	6,755	7,363	7,952
Marketing and sales													1,000	15,500	46,500	48,825	51,755	54,342
Total Operating Expenses	2,415	2,002	371	164	486	1,581	2,602	2,022	3,715	4,681	5,294	15,712	15,879	26,497	59,217	65,340	73,335	81,535
Operating Incomes (losses)	(2,415)	(2,002)	(371)	(164)	(486)	(1,581)	(2,602)	(2,022)	(3,715)	(4,681)	(5,294)	(15,712)	(15,879)	(22,508)	(33,547)	(1,327)	38,870	85,120
Interest income	11	2	1	1	1	4	7	3	3	3	3	12	13	15	16	18	19	21
Interest expense	(3)	(24)			(40)	(40)	(80)	(40)	(40)	(40)	(40)	(161)	(177)	(195)	(215)	(236)	(260)	(260)
Change in fair value of warrant liability	6	7	(124)		39		(82)	(10)	25	(27)	(14)	(26)	(30)	15	(20)	24	(27)	(27)
Total Other Income, net	13	(15)	(123)	(75)	(0)	(36)	(235)	(47)	(12)	(64)	(51)	(175)	(194)	(166)	(219)	(195)	(267)	(265)
Income before tax	(2,401)	(2,018)	(494)	(240)	(486)	(1,617)	(2,836)	(2,069)	(3,728)	(4,745)	(5,345)	(15,887)	(16,073)	(22,674)	(33,766)	(1,521)	38,603	84,854
Tax Rate	0	0														32%	32%	32%
Tax	0	0	-		-		0	0	-	-	-	0	0	0	0	487	(12,353)	(27,153)
Net Income (Loss)	(2,401)	(2,018)	(494)	(240)	(486)	(1,617)	(2,836)	(2,069)	(3,728)	(4,745)	(5,345)	(15,887)	(16,073)	(22,674)	(33,766)	(1,035)	26,250	57,701
Net Income (Loss) Applicable to Common Shareholders	($2,401)	(2,018)	(494)	(240)	(480)	(1,613)	(2,836)	(2,069)	(3,728)	(4,745)	(5,345)	(15,887)	(16,073)	(22,674)	(33,766)	(1,035)	26,250	57,701
Net Earnings (Losses) Per Share—Basic and Diluted	($2.18)	($1.79)	($0.44)	($0.21)	($0.40)	($0.27)	($1.20)	($0.34)	($0.59)	($0.72)	($0.79)	($2.46)	($1.37)	($1.78)	($2.45)	($0.07)	$1.66	$3.44
Shares outstanding—basic and diluted	1,103	1,124	1,135	1,135	1,190	5,971	2,368	6,171	6,371	6,571	6,771	6,471	11,771	12,771	13,771	14,771	15,771	16,771
	1,103	1,124	1,135	1,135	1,190	5,971	2,368	6,171	6,371	6,571	6,771	6,471	11,771	12,771	13,771	14,771	15,771	16,771
Margin Analysis (% of Sales/Revenue)																		
Costs of goods														9%	9%	9%	9%	9%
R&D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	124%	16%	6%	4%	3%
MG&A	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	531%	205%	87%	53%	37%
Operating Income (loss)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-564%	-131%	-2%	35%	51%
Net Income	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	-568%	-132%	-2%	23%	35%
Financial Indicator Growth Analysis (YoY%)																		
Total Revenue		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	544%	149%	75%	49%
R&D		-37%	-40%	-71%	-77%	100%	-18%	430%	942%	4221%	515%	1027%	-10%	-49%	-15%	-5%	3%	3%
SG&A		47%	-5%	-32%	189%	175%	97%	459%	307%	214%	46%	199%	5%	10%	9%	9%	9%	8%
Marketing and sales														1450%	200%	5%	6%	5%
Operating Loss		-17%	-26%	-54%	2%	139%	30%	445%	594%	864%	235%	504%	1%	42%	49%	-96%	-3030%	119%
Total Other Income, net		-213%	-6350%	-3932%	-96%	241%	1454%	-62%	-94%	20580%	43%	-25%	11%	-15%	32%	-11%	37%	-1%
Pretax Income			-1%	-33%	0%	140%	41%	319%	408%	877%	231%	460%	1%	41%	49%	-95%	-2637%	120%
Net Income		-16%	-1%	-33%	-1%	140%	41%	319%	1454%	889%	231%	460%	1%	41%	49%	-97%	-2637%	120%
EPS		-18%	-3%	-34%	-7%	-55%	-33%	-23%	177%	79%	192%	105%	-44%	30%	38%	-97%	-2476%	107%

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Source: Bloomberg LP; Company reports; Laidlaw & Company estimates

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Figure 28: Balance Sheet

Evoke Pharma – Balance Sheet

($'000)	2011	2012	1Q13	2Q13	3Q13	4Q13	2013	1Q14E	2Q14E	3Q14E	4Q14E	2014E	2015E
Assets													
Cash and cash equivalents	866	116	1,670	1,050	23,738	24,197	24,197	22,470	18,783	14,369	9,369	9,369	51,381
Short term investments	0	0	0	0	0	0	0	0	0	0	0	0	0
Liqid assets	*866*	*116*	*1,670*	*1,050*	*23,738*	*24,197*	*24,197*	*22,470*	*18,783*	*14,369*	*9,369*	*9,369*	*51,381*
Account receivable and other receivables	0	0	-	-	-	-	*0*	-	-	-	-	0	*0*
Inventory			-	-	-	-	*0*	-	-	-	-	0	*0*
Deferred tax asset													
Prepaid expenses and other current assets	0	0	0	0	0	234	234	246	256	263	277	277	296
Total Current Assets	866	116	1,670	1,050	23,738	24,431	24,431	22,716	19,039	14,633	9,645	9,645	51,677
Other asset	39	0	0	0	0	0	0	0	0	0	0	0	0
Property and equipment, net	0	0	11	743	0	556	556	563	587	603	622	622	654
Total Assets	**905**	**116**	**1,680**	**1,793**	**23,738**	**24,986**	**24,986**	**23,279**	**19,626**	**15,236**	**10,267**	**10,267**	**52,331**
Liabilities and Stockholders' Equity													
Accounts payable and accrued expenses	172	97	239	1,177	1,176	285	285	291	312	300	314	314	379
Accrued compensation	163	418	429	537	391	557	557	596	570	584	597	597	616
Warrant liabiilty	0	56	0	0	0	0	0	0	0	0	0	0	0
Current portion of long-term debt		0			1,070	1,443	1,443	1,511	1,461	1,525	1,521	1,521	1,481
Total Current Liabilities	335	570	668	1,714	2,637	2,285	2,285	2,399	2,342	2,409	2,433	2,433	2,476
Deferred rent	0	0	-	-	-	7	7	7	7	7	7	7	101
Deferred revenue—non-current	(0)	980	2,937	2,241	1,878	1,511	1,511	1,458	1,490	1,459	1,482	1,482	1,481
Total Liabilities	334	1,550	3,605	3,955	4,515	3,803	3,803	3,864	3,839	3,875	3,921	3,921	4,058
Series A convertible preferred stock	18,225	18,225	18,225	18,225	0	0	0	0	0	0	0	0	0
Preferred stock	0	0	0	0	0	0	0	0	0	0	0	0	0
Common stock	0	0	0	0	1	1	1	1	1	1	1	1	1
Additional paid-in capital	183	196	199	202	40,297	43,874	43,874	44,174	44,274	44,594	44,924	44,924	102,924
Accumulated other comprehensive income	0	0	-	-	-	-	0	-	-	-	-	0	0
Deficit accumulated during the development stage	(17,837)	(19,855)	(20,349)	(20,589)	(21,075)	(22,691)	(22,691)	(24,761)	(28,488)	(33,234)	(38,579)	(38,579)	(54,652)
Total Stockholders' Equity	(17,654)	(1,434)	(20,150)	(20,387)	19,223	21,183	21,183	19,414	15,786	11,361	6,346	6,346	48,273
Total Liabilities and Stockholders' Equity	**905**	**116**	**1,680**	**1,793**	**23,738**	**24,986**	**24,986**	**23,279**	**19,626**	**15,236**	**10,267**	**10,267**	**52,331**

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Source: Bloomberg LP; Company reports; Laidlaw & Company estimates

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Figure 29: Cash flow Statement

Evoke Pharma – Cash Flow Statement

($'000) Cash Flows From Operating Activities:	2011	2012	1Q13	2Q13	3Q13	4Q13	2013	1Q14E	2Q14E	3Q14E	4Q14E	2014E	2015E
Net loss	(2,401.2)	(2,017.5)	(494.0)	(239.9)	(485.9)	(1,616.7)	(2,836.5)	(2,069.1)	(3,727.7)	(4,745.5)	(5,345.1)	(15,887.4)	(16,073.5)
Adjustments to reconcile net loss to net cash used in operating activities:													
Depreciation and 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	0.1
Stock-based compensation expense	22.7	12.5	3.1	3.1	7.6	132.1	146.0	0.0	0.0	0.0	0.0	0.0	0.0
Non-cash interest	2.4	4.0	5.8	5.8	5.8	5.8	23.3	5.8	5.8	5.8	5.8	23.3	23.3
Change in fair value of warrant liability	(5.5)	(7.3)	124.0	(3.0)	(39.0)	0.0	82.0	10.0	(25.0)	27.0	14.0	26.0	30.0
Deferred rent expense	0.0	0.0	0.0	0.0	0.0	6.8	6.8	0.0	0.0	0.0	0.0	0.0	0.0
Changes in operating assets and liabilities:													
Prepaid expenses and other assets	76.4	39.5	(10.5)	(732.1)	742.6	(234.3)	(234.3)	(11.7)	(9.8)	(7.7)	(13.2)	(42.4)	(19.4)
Other assets	0.0	0.0	0.0	0.0	0.0	(555.5)	(555.5)	(7.5)	(24.0)	(16.0)	(19.0)	(66.5)	(32.0)
Accounts payable and accrued expenses	(587.8)	218.9	(74.9)	536.2	(505.8)	372.5	327.9	45.4	(5.9)	2.5	27.0	69.0	83.8
Net Cash from Operating Activities	**(2,893.1)**	**(1,749.9)**	**(446.5)**	**(429.8)**	**(274.7)**	**(1,889.3)**	**(3,040.3)**	**(2,027.1)**	**(3,786.7)**	**(4,733.8)**	**(5,330.5)**	**(15,878.1)**	**(15,987.7)**
Cash Flows From Investing Activities:													
Net Cash from Investing Activities	**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**
Cash Flows From Financing Activities:													
Proceeds from bank line of credit and loan advances	0.0	1,000.0	2,000.0	0.0	0.0	0.0	2,000.0	0.0	0.0	0.0	0.0	0.0	0.0
Payment on bank line of credit	(277.8)	0.0	0.0	(0.0)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from issuance of common stock, net	0.0	0.0	0.0	(189.3)	22,962.3	2,347.9	25,120.9	300.0	100.0	320.0	330.0	1,050.0	58,000.0
Net Cash Provided by Financing Activities	**(277.8)**	**1,000.0**	**2,000.0**	**(189.3)**	**22,962.3**	**2,347.9**	**27,120.9**	**300.0**	**100.0**	**320.0**	**330.0**	**1,050.0**	**58,000.0**
Net increase (decrease) in cash	**(3,170.9)**	**(749.9)**	**1,553.5**	**(619.1)**	**22,687.6**	**458.6**	**24,080.7**	**(1,727.0)**	**(3,686.7)**	**(4,413.8)**	**(5,000.5)**	**(14,828.0)**	**42,012.3**
Cash at beginning of period	4,036.8	865.9	116.0	1,669.5	1,050.4	23,738.1	116.0	24,196.7	22,469.7	18,783.0	14,369.2	24,196.7	9,368.7
Cash at end of period	**865.9**	**116.0**	**1,669.5**	**1,050.4**	**23,738.1**	**24,196.7**	**24,196.7**	**22,469.7**	**18,783.0**	**14,369.2**	**9,368.7**	**9,368.7**	**51,381.0**

Yale Jen, Ph.D. 212-953-4978

Source: Bloomberg LP; Company reports; Laidlaw & Company estimate

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DISCLOSURES:

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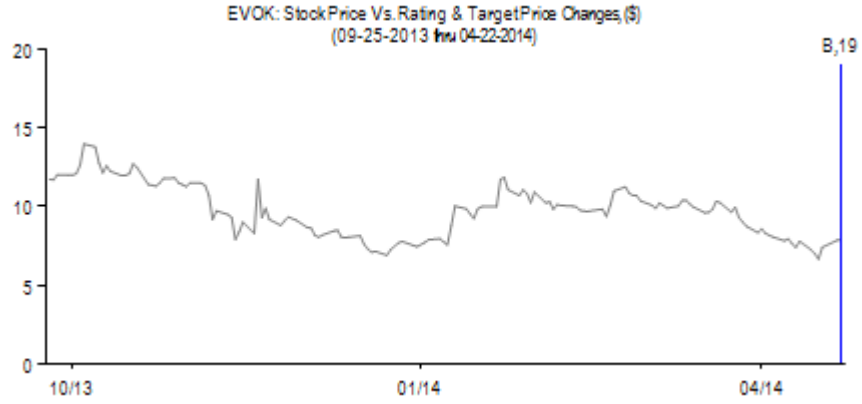
Additional information available upon request.

Laidlaw & Co (UK) Ltd. has not provided any investment banking services for the company (ies) mentioned in this report over the last 12 months.

RATINGS INFORMATION

Rating and Price Target Change History



3 Year Rating Change History

Date	Rating	Closing Price ($)
04/22/2014	Buy (B)	7.86*

3 Year Price Change History

Date	Target Price ($)	Closing Price, ($)
04/22/2014	19.00	7.86*

** Previous Close4/21/2014*

Source: Laidlaw & Company **Created by: Blue-Compass.net**

Laidlaw & Company Rating System*		% of Companies Under Coverage With This Rating	% of Companies for which Laidlaw & Company has performed services for in the last 12 months	
			Investment Banking	Brokerage
Strong Buy (SB)	Expected to significantly outperform the sector over 12 months.	0.00%	0.00%	0.00%
Buy (B)	Expected to outperform the sector average over 12 months.	87.50%	31.25%	12.50%
Hold (H)	Expected returns to be in line with the sector average over 12 months.	6.25%	0.00%	0.00%
Sell (S)	Returns expected to significantly underperform the sector average over 12 months.	0.00%	0.00%	0.00%

ADDITIONAL COMPANIES MENTIONED

Questcor Pharmaceuticals (QCOR – NR)
Mallinckrodt (MNK – NR)
Theravance (THRX: NR)
GlaxoSmithKline (GSK: NR)
Johnson & Johnson (JNJ: NR)
Salix Pharmaceuticals (SLXP: NR)
NPS Pharmaceuticals (NPSP: NR)
Galectin Therapeutics (GALT: NR)

Intercept Pharmaceuticals (ICPT: NR)
Sucampo Pharmaceuticals (SCMP: NR)
Ventrus Biosciences (VTUS: NR)
Synergy Pharmaceuticals (SGYP: NR)
Ocera Therapeutics (OCRX: NR)
Ironwood Pharmaceuticals (IRWD: NR)
Soligenix (SNGX: NR)
RedHill Biopharma (RDHL: NR)

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