EDISON

GW Pharmaceuticals

MS spasticity milestones

Steps forward in MS spasticity

Pharma & biotech

The commercial prospects for Sativex in MS spasticity have improved in the US and EU. Partner Almirall has resolved the German pricing issue and achieved acceptable reimbursement in Europe's largest MS market. In the US, the opening of an IND paves the way for a pivotal Phase III study starting H214. Including these opportunities increases our Sativex peak sales by £93m to £512m ($820m). Our valuation rises to £236m ($378m).

Year end	Revenue (£m)	PBT* (£m)	EPS* (p)	DPS (p)	P/E (x)	Yield (%)
09/12	33.1	2.2	2.6	0.0	33.5	N/A
09/13e	23.7	(8.7)	(2.4)	0.0	N/A	N/A
09/14e	23.6	(6.6)	(2.2)	0.0	N/A	N/A

Note: *PBT and EPS are normalised, excluding intangible amortisation, exceptional items and share-based payments.

A step forward in the EU: German pricing agreement

In March 2013 the German state insurers (GKV-SV) set a reimbursed price for Sativex in multiple sclerosis (MS) spasticity c 60% lower than other launched EU territories. Partner Almirall and GKV-SV have now agreed a commercially acceptable (but undisclosed) price. This early (and amicable) resolution avoids a further cost-benefit review and potential legal action. Moreover, Germany represents the largest EU market opportunity for Sativex, as evidenced by solid patient uptake (c 4,000 prescribed the drug) since its launch in 2011.

A step forward in US: Edging closer to Phase III start

GW has applied to the FDA (IND application) to undertake US Phase III development of Sativex for MS spasticity. Pending FDA feedback, GW plans to initiate a single pivotal study in H214, employing a 'randomised withdrawal' design similar to the positive Phase III trial that secured EU approval. As such, GW is likely to seek FDA agreement (Special Protocol Assessment) on the Phase III design, endpoints and planned statistical analysis. As with the ongoing cancer pain Phase III studies, US partner Otsuka is funding all US clinical costs in MS spasticity.

Forecasts: Increasing MS spasticity projections

Our updated model reintroduces German Sativex sales projections (removed in April pending pricing resolution) and includes new US forecasts for Sativex in MS spasticity. While FY13 estimates are unchanged, our FY14 revenues rise to £23.6m (prior £23.0m) and pre-tax loss increases to £6.6m (prior £5.3m). Inclusion of Germany increases peak (ex-US) sales in MS spasticity by £12.5m to £63.8m. In the US, we see an FY18 launch and in-market sales of £110m by FY22.

Valuation: DCF rises to £236m

Our DCF valuation rises by £57m to £236m ($378m), which equates to 133p/share or $25.50/ADR. Our valuation comprises Sativex for MS spasticity (65% probability of success in the US) and cancer pain (65% probability) plus projected end-FY13 cash (£37.2m). The five R&D programmes currently offer pure upside to our DCF.

1 October 2013

Price	**87.0p**
Market cap	**£155m**
	$1.60/£
Net cash (£m) end-FY13e	37.2
Shares in issue	178.0m
Free float	80%
Code	GWP
Primary exchange	LSE
Secondary exchange	NASDAQ

Share price performance

%	1m	3m	12m
Abs	38.1	79.4	16.0
Rel (local)	36.8	71.4	1.0
52-week high/low		87.0p	39.5p

Business description

GW Pharmaceuticals is a UK-based speciality pharma company focused on developing cannabinoid medicines. Its lead product, Sativex, is marketed in a number of European countries for spasticity due to multiple sclerosis. Sativex is also in Phase III development for cancer pain. GW has three business segments: Sativex commercial, Sativex R&D and Pipeline R&D.

Next events

Almirall/GW present at ECTRIMS	2-5 October 2013
GWP42004 Phase IIb start	Q413
GWP42006 Phase I data	Q413
THC:CBD Phase Ib/IIa start	Q413

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GW Pharmaceuticals datasheet

Exhibit 1: Sativex R&D summary

Indication	Trial design/notes
MS spasticity (approved)	Sativex is now approved, or recommended for approval, in 23 countries for MS spasticity (including 17 in Europe); it has been launched in 11 territories, and is approved but not yet marketed in 11. Regulatory filings are ongoing in an additional nine countries (primarily Middle East). Launched in the UK (June 2010), Spain (March 2011), Germany and Denmark (July 2011), and Canada, Israel and Norway (November 2012). Positive German reimbursement decision (June 2012) and pricing agreement (September 2013). French regulatory submission in July 2013. Regulatory approvals also received in Australia (November 2012), Belgium, the Czech Republic, Finland, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Poland, Portugal and Slovakia, with further launches expected from mid-2013.
Cancer pain (Phase III)	Positive results from two Phase II studies including over 530 patients. Conditional approval in Canada (August 2007) under NOC/c policy. Pivotal Phase III studies for relief of persistent pain in advanced cancer ongoing: 380-pt SPRAY trial (results mid-2014) and 380-pt study (results H214) evaluating adjunctive Sativex (3-10 sprays/day) versus placebo over five weeks with primary end point of continuous-response % change from baseline. Patients completing these studies (up to 760) can enter six-month open-label extension to assess long-term safety (results H214). Third 540-pt Phase III trial with "enriched study design" initiated in H112, which will provide supplementary data to two pivotal studies (results H215). Regulatory filing possible early 2015. If data from core studies are sufficient for filing, this will occur prior to read out of third study. EU filings, using the same Phase III results, are also expected in early 2015.
Neuropathic pain (peripheral and due to MS)	Approved for neuropathic pain in MS in Canada. 66-pt Phase III showed efficacy in reducing pain (p=0.005) and sleep disturbance (p=0.003) in neuropathic pain in MS. 339-pt Phase III did not meet primary end point (30% or greater improvement in VAS), but significant results were seen at equal dosing and in a randomised withdrawal extension study.

Source: Edison Investment Research

Exhibit 2: Sativex licensing arrangements

Partner/territory	Financial terms
Bayer UK/Canada	£32.75m total milestones payable, of which £20m has been triggered to date. Transfer price less the manufacturing cost results in a c 30% effective royalty on sales.
Almirall/Europe (ex-UK) and Mexico	£12m signing fee plus milestones of £30m. £22.75 m received (£8m paid on Phase III MS data, £2.5m on first EU launch in Spain). March 2012 extension to secure rights to Mexico includes €12m milestone, but also reduced transfer price until EU cancer pain launch and cancellation of a £5.5m cancer pain launch milestone. Transfer price less manufacturing cost results in a 10-25% effective royalty, with the higher rate triggered by approval for the cancer pain indication.
Otsuka/US	$18m signing fee plus $255m in milestones. $22m received ($4m paid on start of Phase III cancer pain trial). Transfer price less manufacturing cost results in a c 20% effective royalty. Otsuka funds all development for cancer pain, additional indications and in any future formulations. Joint oversight of all US clinical development and regulatory activities. GW responsible for clinical development in cancer pain indication, with costs reimbursed. Projected $5m milestone on start of US Phase III study in MS spasticity in H115.
Novartis Aus/NZ, Asia, Middle East and Africa	$5m upfront payment, plus additional approval and commercial milestones of up to $28.75m and royalties (Edison assumes mid-teens) on net sales. Novartis holds exclusive commercialisation rights (all indications) and responsibility for regulatory filings. GW responsible for manufacture and supply (structured as COGS plus margin).

Source: Edison Investment Research

Exhibit 3: R&D pipeline

Product	Indication	Trial design/notes
GWP42004	Type II diabetes	Encouraging headline results from 62-pt Phase IIa study in Type II diabetes, with a statistically significant (1) reduction in fasting plasma glucose; (2) increase in fasting insulin; (3) improved pancreatic beta-cell function; (4) increased serum adiponectin; and (5) reduction in systolic blood pressure. In Q413, GW plans to initiate a Phase IIb trial in 100 patients with Type II diabetes.
GWP42003	Ulcerative colitis	62-pt Phase IIa pilot study (GWID10160) in refractory ulcerative colitis (primary endpoint: remission/MAYO score of ≤2 after 10 weeks, results: H114). Positive data in several in vivo models (inhibition of neutrophil chemotaxis, chemically and immunologically induced inflammation, in colon pre-neoplasms) and mouse DNBS-induced colitis model. Pilot study with cannabinoid showed improvement on Crohn's disease activity index (36.8% vs 3.5% placebo).
GWP42003	Schizophrenia	Evidence of antipsychotic activity for CBD in various animal models and preliminary human studies. Preclinical data generated by GW/Otsuka show GWP42003 reduces psychosis and unwanted side effects of existing anti-psychotics. Pilot Phase II to start H114.
GWP42006	Epilepsy	Lead compound selected. Preclinical studies suggest similar efficacy to valproate, replicating efficacy of and synergy with approved anti-convulsants, with an improved side effect profile. Preclinical programme concludes in H113. Phase I study started in Q313 and expected to render results by end-2013.
GWP42002/ GWP42003	Glioma	Phase Ib/IIa trial of Sativex – a 1:1 ratio of GWP42002 (THC) and GWP42003 (CBD) – in glioma expected to start Q413. Preclinical studies show synergistic activity of low-dose Sativex with temozolomide in animal models of glioma when administered orally and subcutaneously. Mechanism of action: interference with mTORC-mediated suppression of apoptosis.

Source: Edison Investment Research

Update: Steps forward in MS spasticity

Financials: Increasing MS spasticity projections

Our updated Sativex revenue model is outlined in Exhibit 4. The key changes are twofold:

- **Reintroducing German sales in MS spasticity** – We conservatively removed German sales projections from our model in April 2013 (Grass is Greener) pending resolution of the pricing issue. Our updated forecasts assume no German sales revenues in FY13 (year-end September) and relatively modest in-market sales by Almirall of £3.0m in FY14 rising to £3.8m in FY15; this generates GW-reported revenues of £600k and £1m, respectively. Although the reimbursed price has not been disclosed, we assume a c 30% discount (versus 60% originally offered by GKV-SV) to other marketed EU territories. Pending publication of the price on GKV-SV's website, we assume annual cost of treatment at c €1,800 (c £1,500). Reinstating Germany increases our peak (ex-US) sales in MS spasticity by £12.5m to £63.8m.
- **New US forecasts in MS spasticity –** Our current timeline assumes that GW will seek an SPA (grant H114) leading to Phase III initiation in H214. We assume a two--year trial duration, with headline data in H216, FDA submission in H117 and approval and launch in H218 (ie FY18). We assume that the annual cost of treatment is c £9,500 (c $15,000) versus £6,500 for cancer pain (shorter treatment duration in terminal patients). We estimate that GW could achieve a 6% share of the addressable population of US patients with refractory spasticity (c 160k currently) by 2023. We view these forecasts as conservative; by way of comparison, Acorda's Ampyra (fampridine) is indicated to improve walking ability in MS patients (but shows relatively modest efficacy) and is priced at c $15,000 annually in the US (average wholesale price). According to Acorda, an estimated 80,000 patients have tried Ampyra since its US launch in March 2010 and the company has guided to 2013 net sales of c $285-315m.

Exhibit 4: Sativex revenue model – MS spasticity

£'000s	2013e	2014e	2015e	2016e	2017e	2018e	2019e	2020e	2021e	2022e	2023e
MS spasticity – In-market net sales											
Canada	1,185	1,209	1,480	1,761	2,053	2,356	2,670	2,995	3,333	3,541	3,612
UK	1,209	1,644	2,516	3,421	4,362	5,339	6,354	7,407	8,499	9,632	9,825
Spain	2,845	3,192	3,551	3,924	4,311	4,711	5,126	5,555	5,999	6,459	6,588
Germany		2,979	3,798	4,649	7,113	8,061	9,045	10,064	11,121	12,216	12,460
France		484	987	1,509	2,053	2,617	3,737	4,357	4,999	5,666	5,779
Italy	474	967	1,480	2,012	2,566	3,141	3,737	4,357	4,999	5,666	5,779
Other EU	1,422	2,176	2,960	3,773	4,619	5,496	6,407	7,352	7,916	8,499	8,669
Other territories	454	925	1,888	2,889	3,928	5,009	6,131	7,296	8,505	9,759	11,060
US						8,414	17,165	35,017	71,436	100,188	109,624
In-market sales – MS spasticity	**7,589**	**13,576**	**18,659**	**23,939**	**31,004**	**45,144**	**60,371**	**84,400**	**126,807**	**161,627**	**173,398**
MS spasticity – GW revenues											
Canada	415	423	518	616	718	824	934	1,048	1,167	1,239	1,264
UK	423	575	880	1,197	1,527	1,869	2,224	2,592	2,975	3,371	3,439
Spain	711	638	959	1,374	1,509	1,649	1,794	1,944	2,100	2,261	2,306
Germany	0	596	1,025	1,627	2,489	2,821	3,166	3,522	3,892	4,276	4,361
France		97	266	528	718	916	1,308	1,525	1,750	1,983	2,023
Italy	119	193	400	704	898	1,099	1,308	1,525	1,750	1,983	2,023
Other EU	356	435	799	1,321	1,617	1,924	2,242	2,573	2,771	2,975	3,034
Other territories	91	185	378	578	786	1,002	1,226	1,459	1,701	1,952	2,212
US						2,104	4,291	8,754	17,859	25,047	27,406
GW revenues – MS spasticity	**2,114**	**3,143**	**5,225**	**7,945**	**10,262**	**14,208**	**18,494**	**24,944**	**35,963**	**45,087**	**48,068**

Source: Edison Investment Research

Our FY13 forecasts for GW remain unchanged, as the new German reimbursed price takes effect from the start of 2014 (Exhibit 5). In addition, we expect a £0.9m provision for rebates to Almirall following the original pricing decision (applying to German sales from July 2012 to July 2013) to remain intact. Key changes for FY14 are shown in Exhibit 5 and include: a small uplift in FY14

revenues from German sales to £23.6m (prior £23.0m); a small reduction in gross profit to £21.7m (prior £22.1m) due to the impact of lower-margin German sales; an increase in GW-funded R&D expenditure to £10.5m (prior £9.5m) due the five R&D programmes entering or completing clinical trials. The net effect is an increase in the FY14 operating loss to £7.9m.

Exhibit 5: Summary of changes to estimates

£'000s	FY13e			FY14e		
	Old	New	% chg.	Old	New	% chg.
Revenue	23,654	23,654	-	23,030	23,626	3%
Operating expenditure	(32,810)	(32,810)	-	(28,639)	(29,639)	-3%
Operating profit	(10,107)	(10,107)	-	(6,564)	(7,899)	-20%
Tax credit (P&L)	5,071	5,071	0%	2,750	2,750	0%
Profit after tax	(4,664)	(4,664)	0%	(3,522)	(4,878)	-38%
Tax credit (cash flow)	2,800	2,800	0%	2,750	2,750	0%
Capex	(3,000)	(3,000)		(5,000)	(5,000)	0%
Year-end net cash	37,179	37,179	0%	29,188	27,101	-7%

Source: Edison Investment Research

Valuation: Revised DCF of £236m

We value GW Pharma using a DCF-based approach. We forecast 10-year cash flows (FY13-23) from Sativex in its two main indications of MS spasticity (65% probability of success in the US; 100% in approved/marketed ex-US territories) and advanced cancer pain (US and EU markets; 65% probability of success) and apply a 12.5% WACC and 1% terminal growth rate. The re-introduction of German Sativex projections and inclusion of US forecasts in MS spasticity increases our risk-adjusted DCF valuation by £57m to £236m ($377m). This equates to 133p per share or $25.50 per ADR. Unwinding our 65% risk adjustment on the cancer pain indication would increase our DCF valuation to £280m ($447m), equating to £1.58/share or $30.25/ADR. At this stage, the entire R&D pipeline (five clinical-stage programmes) represents pure upside to our DCF valuation.

Sensitivities: Clinical, regulatory and commercial

GW Pharma is subject to sensitivities common to most biopharmaceutical companies, such as potential clinical or regulatory failure or delay, commercialisation risks (launch, uptake, pricing, reimbursement, competition) and reliance on partners. With Sativex launched for MS spasticity in a number of European and international markets, GW is now a commercial-stage business and hence a lower-risk investment proposition. However, there is single-product risk associated with Sativex, which currently comprises our entire valuation. Completion of the EU approval processes for MS spasticity to date mitigates approval risk in major territories, although launch timings continue to be a sensitivity, as are the commercial risks associated with pricing and reimbursement. Other key risks associated with Sativex are the outcome of ongoing Phase III studies in cancer pain, which are expected in 2014, and the success of the US Phase III trial in MS spasticity. Another key sensitivity is the future value inherent in the cannabinoid R&D portfolio, which is currently not included in our valuation.

Exhibit 6: Financial summary

£000s	2011	2012	2013e	2014e
Year end 30 September	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS				
Revenue	29,627	33,120	23,654	23,626
Cost of sales	(1,347)	(839)	(951)	(1,886)
Gross profit	28,280	32,281	22,703	21,740
R&D Expenses	(22,714)	(27,578)	(29,047)	(25,500)
SG&A Expenses	(3,298)	(3,660)	(3,763)	(4,139)
EBITDA	3,652	2,797	(8,207)	(5,999)
Operating profit (before goodwill and except.)	3,064	2,043	(9,107)	(6,899)
Intangible amortisation	0	0	0	0
Exceptionals	0	0	0	0
Share-based payment	(795)	(1,000)	(1,000)	(1,000)
Operating profit	2,269	1,043	(10,107)	(7,899)
Net Interest	260	199	372	271
Profit before tax (norm)	3,324	2,242	(8,735)	(6,628)
Profit before tax (FRS 3)	2,529	1,242	(9,735)	(7,628)
Tax	221	1,248	5,071	2,750
Profit after tax (FRS 3)	2,750	2,490	(4,664)	(4,878)
Average number of shares outstanding (m)	131.7	133.0	151.8	177.5
EPS - normalised (p)	2.7	2.6	(2.4)	(2.2)
EPS - basic (p)	2.1	1.9	(3.1)	(2.7)
EPS - diluted (p)	2.0	1.8	(3.0)	(2.7)
Earnings per ADS - basic ($)	0.39	0.35	(0.57)	(0.51)
Earnings per ADS - diluted ($)	0.38	0.34	(0.56)	(0.50)
Dividend per share (p)	0.0	0.0	0.0	0.0
BALANCE SHEET				
Fixed assets	7,078	7,642	9,742	13,842
Intangible assets	5,210	5,210	5,210	5,210
Tangible assets	1,868	2,432	4,532	8,632
Investments	0	0	0	0
Current assets	32,024	35,280	44,246	36,066
Stocks	1,424	3,537	3,891	5,154
Debtors	2,281	1,588	3,176	3,811
Cash	28,319	29,335	37,179	27,101
Other	0	820	0	0
Current liabilities	(10,028)	(11,563)	(11,230)	(12,168)
Creditors	(6,569)	(9,114)	(10,025)	(11,028)
Short-term borrowings	0	0	0	0
Deferred revenue & advance payments	(3,459)	(2,449)	(1,205)	(1,140)
Long-term liabilities	(11,422)	(10,127)	(8,022)	(6,862)
Long-term borrowings	0	0	0	0
Deferred revenue	(11,422)	(10,127)	(8,022)	(6,817)
Other long-term liabilities	0	0	0	(45)
Net assets	17,652	21,232	34,736	30,878
CASH FLOW				
Operating cash flow	2,133	1,373	(10,528)	(8,099)
Net interest	241	258	372	271
Tax	221	428	2,800	2,750
Capex	(891)	(1,318)	(3,000)	(5,000)
Expenditure on intangibles	0	0	0	0
Acquisitions/disposals	0	0	0	0
Financing	1,396	275	18,200	0
Dividends	0	0	0	0
Net cash flow	3,100	1,016	7,844	(10,078)
Opening net debt/(cash)	(25,219)	(28,319)	(29,335)	(37,179)
HP finance leases initiated	0	0	0	0
Other	0	0	(0)	0
Closing net debt/(cash)	(28,319)	(29,335)	(37,179)	(27,101)

Source: GW Pharma accounts, Edison Investment Research

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