

# Interim Results: Six Months Ended 31 March 2008



**GW Pharmaceuticals plc**

19 June 2008



## Notice

Past performance should not be seen as an indication of future performance. Actual results and developments may differ materially from those expressed or implied by this briefing depending on a variety of factors. The contents of this briefing are intended only for persons having professional experience in matters relating to investments. Persons who do not have professional experience in matters relating to investments should not rely on the contents of this briefing.

# Agenda

- Highlights Justin Gover, Managing Director
- R&D Review Dr Stephen Wright, R&D Director
- Financial Results David Kirk, Finance Director
- Outlook Justin Gover, Managing Director

# Highlights

- Operations

- Sativex Phase III MS spasticity trial, requested by UK regulator, on track to complete around year-end. Regulatory submission targeted for H1 09
- Sativex Phase IIb/III cancer pain trial ongoing and due to complete in H1 09
- Sativex named patient prescription use rising – product exported to 20 countries
- New Zealand regulatory application progressing. Outcome expected H2 08
- Catalan Government reports positive outcome of Sativex access programme
- Sativex Phase III MS pain trial results show high patient response rate to Sativex but statistical significance narrowly missed due to large, unexpected placebo response
- Otsuka collaboration yields promising new psychiatric & oncology drug candidates
- Phase II trial in planning on novel cannabinoid medicine in Type II diabetes

- Financial

- Turnover increased to £5.7m (H1 2007: £0.8m)
- Net loss reduced to £4.2m (H1 2007: £6.6m)
- Cash and short term deposits at 31 March 2008 of £18.5m

# Sativex Development Status

- 2,500 patients completed clinical trials
- ~50% of otherwise intractable patients show significant benefit
- Approved in Canada, named patient prescription use in UK and elsewhere
- Three major licence agreements signed with compelling commercial terms
- Data published in peer review journals and presented at international conferences

SATIVEX	INDICATIONS	REGIONS	PHASE I	PHASE II	PHASE III	SUBMIT	APPROVAL
	SPASTICITY IN MS	EU	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]		
		Canada	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]		
		USA	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]		
		REST OF WORLD	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]		
CANCER PAIN	EU	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	Canada	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	USA	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	REST OF WORLD	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
NEUROPATHIC PAIN IN MS	EU	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	Canada	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	USA	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	REST OF WORLD	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
NEUROPATHIC PAIN	EU	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	Canada	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	USA	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			
	REST OF WORLD	Phase I: [Progress bar]	Phase II: [Progress bar]	Phase III: [Progress bar]			

# Sativex UK Named Patient Use

- Sativex prescribing shows continued growth
- Approx 2,000 patients prescribed to date
- Sativex being prescribed to treat a range of conditions
  - MS symptoms, Neuropathic Pain, Spinal Cord Injury, Rheumatoid Arthritis, Cancer Pain...
- Over 1,600 physicians have prescribed Sativex
- Over 1,300 pharmacies have dispensed Sativex
- Prescribing has taken place in over 90% of English PCTs and majority of areas in Wales, Scotland and Northern Ireland
- Majority of patient prescriptions are being reimbursed
- Long term retention is 50%
- Dosing and safety profile is consistent with clinical trial data

# Sativex Catalan Programme

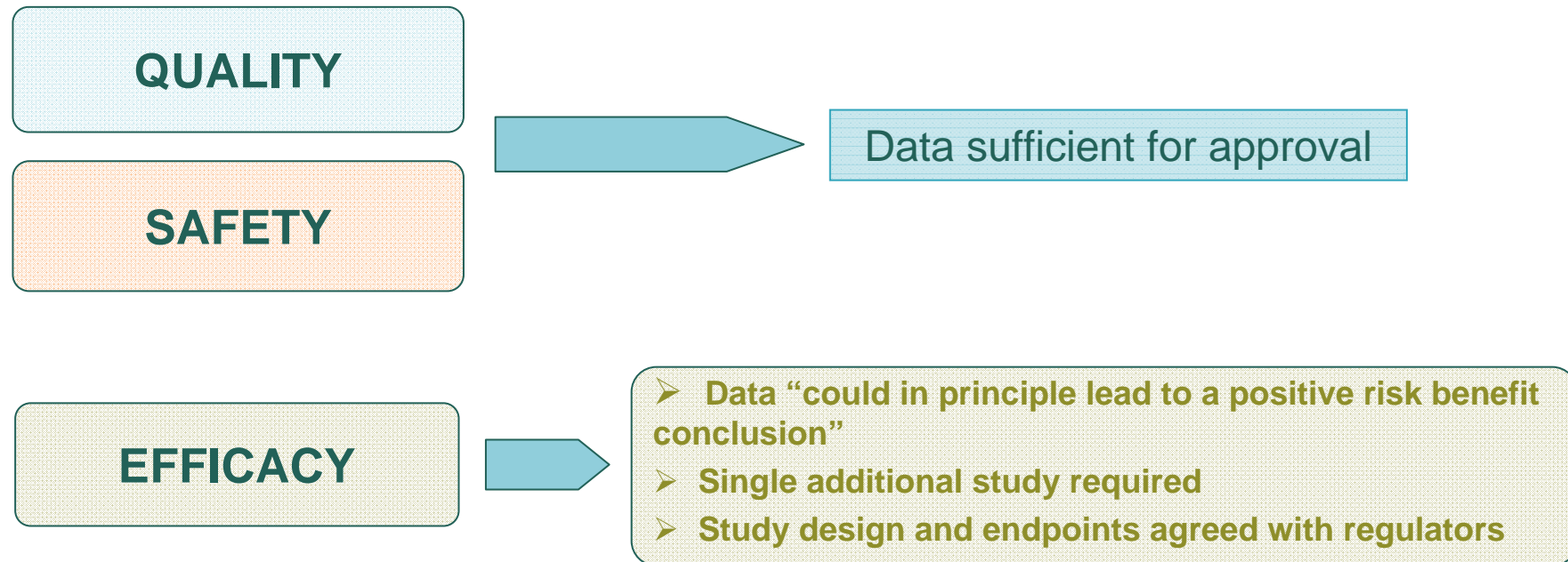
- In April 2008, the Government of Catalonia in Spain published positive results of its pilot programme to evaluate Sativex
- 207 patients included in the programme from 6 hospitals in Catalonia:
  - MS (spasticity/pain)
  - Neuropathic pain
  - Anorexia-cachexia syndrome due to cancer or AIDS
  - Nausea and secondary vomiting due to chemotherapy treatment
- Results show Sativex provides important improvements in ~50% of high need patients who have otherwise failed to benefit from currently available medicines
  - Consistent with experience of Sativex prescription use elsewhere
- Catalan Government supports ongoing prescription use of Sativex

# MS Spasticity



# Europe: Sativex MS Spasticity Regulatory Status

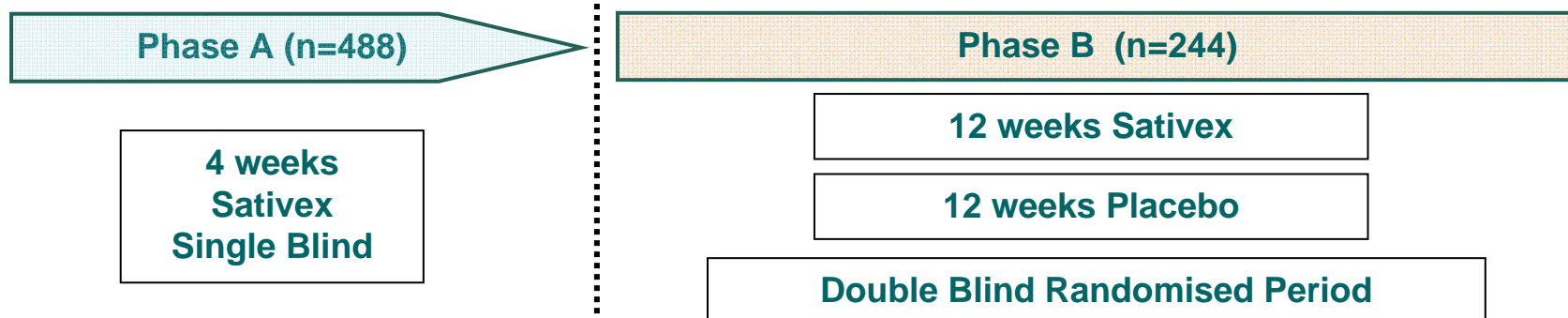
- 2007 “Decentralised” submission
  - UK, Spain, Denmark, Netherlands



**Route to approval established**  
**Single additional study – to complete around end 08**  
**Conclusions ‘validated’ by MHRA report published Dec 07**

# MS Spasticity – Route to EU Approval

- Outstanding efficacy issue to be resolved prior to approval
  - Regulators wish to clarify size of benefit in “responders”
  - “Post hoc” analyses of existing “responders” data show strong results ( $p=0.015$ )
  - Regulators have asked GW to reconfirm in a prospectively planned study
- “Enriched study” agreed with regulators due to complete around year-end
  - “Responders” identified in Phase A
  - Only responders enter the randomised study (Phase B)



## Ongoing MS Spasticity Trial Status

- >40 centres in five European countries
  - UK, Spain, Italy, Czech Republic, Poland
- Analysis plan assumed 50% of patients would respond in Phase A and be eligible to enter Phase B
  - This would require 488 patients into Phase A, in order to recruit 244 to Phase B
- Actual transition rate to date from Phase A to Phase B is almost exactly 50%
  - Reassuring Sativex responder rate
  - Consistent with expectations of regulatory authorities
- Very low withdrawal rate seen to date
- Trial expected to complete around year-end

# Cancer Pain



## Sativex in the United States Targeting Cancer Pain

- FDA has permitted direct entry into Phase III trials
- First US pivotal efficacy clinical trial, Phase IIb/III cancer pain dose ranging study, ongoing
  - Results due H1 09
- Other elements of US development plan all proceeding on track
  - Extensive clinical pharmacology programme, including TQT study (n=255)
- Clear path to US regulatory submission (expected 2010)
- Two further US Phase III trials planned to commence in 2009
- All US trials funded by Otsuka
- Other indications to follow

## Ongoing Phase IIb/III Cancer Pain Trial

- Primary objective
  - To evaluate the potential role and optimal dose range of Sativex as an adjunct to pre-existing pain medications
- Five-week treatment duration
  - Agreed with FDA
- ~70 centres in US and Europe
  - Lead Investigator, Dr Russell Portenoy, Beth Israel, NYC
- 336 patients
  - Patients divided into 3 dose groups, each of which has a placebo arm
- Aim to replicate results from previous positive study conducted in Europe
  - 177 patients
  - Sativex significantly reduced pain vs placebo ( $p=0.014$ ), primary endpoint
  - 43% of Sativex patients exhibited at least a 30% decrease in pain ( $p=0.024$ )

**Due to Complete H1 2009**

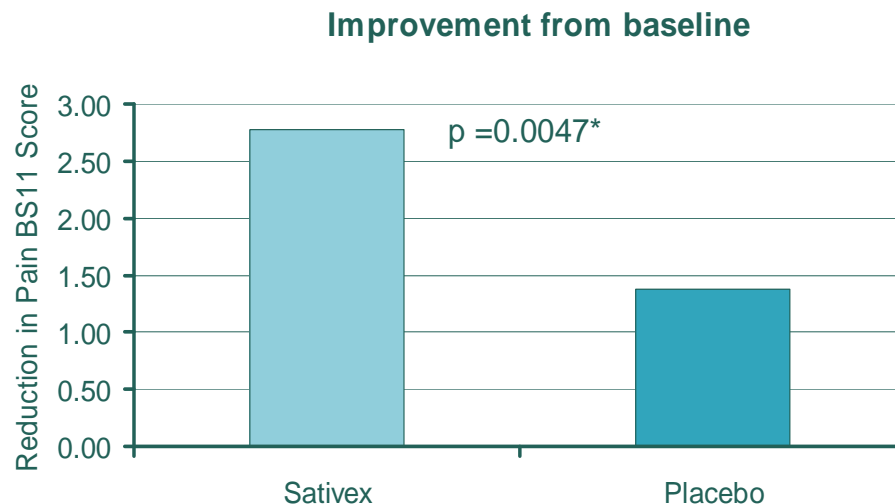
# MS Neuropathic Pain



# Neuropathic Pain in MS

## Positive Results in First Phase III Trial

- Published: Neurology 2005;65:812, Rog et al
- Intractable, treatment-resistant patients, who remain on current medication throughout trial
- N=66
- Positive primary endpoint: Sativex significantly superior to placebo in reducing pain (p=0.005)
- Sativex significantly improved sleep disturbance (p=0.003)
- Patient global impression of change significantly in favour of Sativex (p=0.005)



\*Ancova; ITT population

## Second Phase III MS Neuropathic Pain Trial

- 339 patients - 14 week treatment duration
- Same design as previous positive Phase III trial
- Results reported April 08
  - Sativex had a very high response rate, with 50% gaining >30% improvement in pain
  - Statistical significance achieved at week 10, but lost at week 14
  - Statistical significance achieved when comparing fixed doses
  - Primary analysis narrowly missed significance due to unexpected large placebo effect
    - A known risk in pain studies
    - Allowing patients to determine their own dose with a subjective end-point appears to confound the results
- Ongoing studies in MS Spasticity and Cancer Pain are not subject to the same confounding “freedom to dose” design
  - Patients do not have discretion to determine their own dose

## New Zealand

- NZ Health Ministry requested GW to set up named patient supply of Sativex
  - Sativex has now been imported and is stored at a NZ distributor
- As part of discussions, GW was invited to submit a regulatory application under Section 23 of Medicines Act 1981
  - Application submitted in late Dec 2007
  - If successful, Sativex would be approved as a prescription medicine with commitments to provide additional post-approval data
- Regulatory process ongoing and expected to complete H2 08
  - Questions received, responses provided

# Cannabinoid Pipeline



# GW's Leading Position in Cannabinoid Science

- GW works with several of the world's leading cannabinoid scientists, including
  - Prof Roger Pertwee, University of Aberdeen
  - Prof Raphael Mechoulam, Hebrew University of Jerusalem
  - Prof Vincenzo di Marzo, Istituto per la Chimica di Molecole di Interesse Biologico, Italy
  - Prof Daniela Parolaro, University of Insubria, Italy
  - Prof Manuel Guzman, Complutense University, Madrid
  - Prof Ruth Ross / Prof Gernot Riedel / Prof Bettina Platt, University of Aberdeen
  - Dr Ben Whalley, University of Reading, UK
- GW hosts an Annual Cannabinoid Scientific Review meeting at Royal Society of Medicine
  - 3<sup>rd</sup> meeting held March 2008, attended by over 100 scientists
- Cannabinoid system is being actively researched in treatment of psychiatric disorders, cancer, obesity, diabetes, inflammation, cardiovascular disease, G-I disorders, movement disorders, bone disease, and more.
- GW has unique access to an extensive library of phytocannabinoids and a prominent position in patent filings related to phytocannabinoids

# GW-Otsuka Cannabinoid Global Research Collaboration

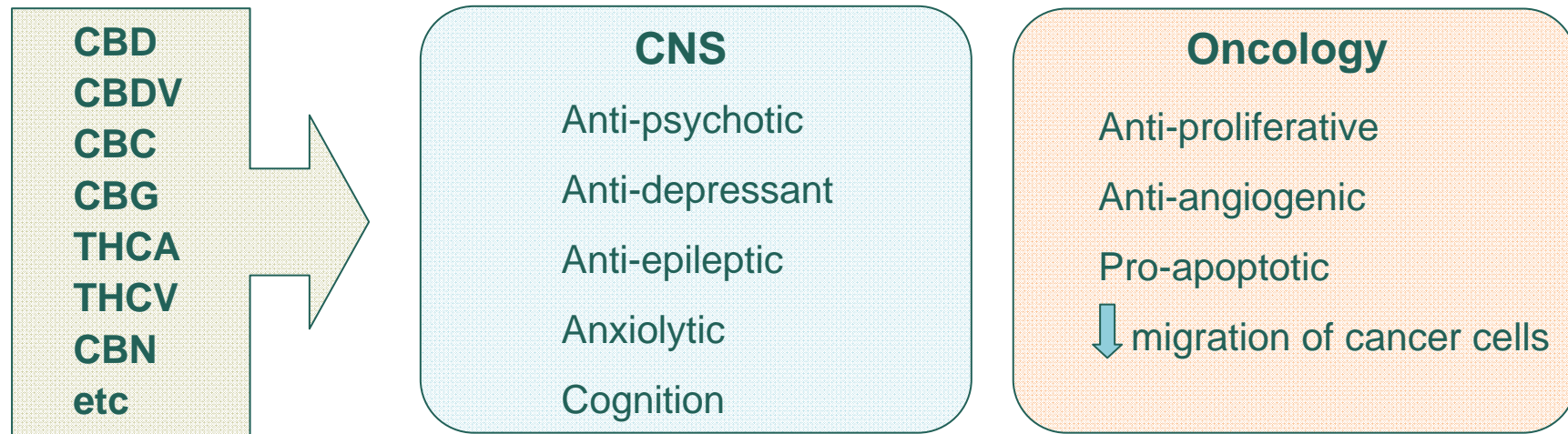
- Signed July 07
  - Otsuka are funding the evaluation of GW cannabinoids as drug candidates within the field of CNS and cancer treatment for an initial 3 year term
- Funding
  - \$9m research fund initially allocated by Otsuka for the 3 year term
  - Financial commitment exceeds that originally envisaged
    - £1m contribution to GW in-house costs in 6 months to 31 March 08
- Otsuka to select promising candidates for full clinical development, regulatory approval and global commercialization
- Once selected, Otsuka shall license each product on financial terms to be agreed at the time of selection, to include:
  - Upfront payments, milestones, royalties
  - Otsuka to fund global development



# GW-Otsuka Research Collaboration

## - Expanding the Pipeline

GW's cannabinoid drug candidates show the following pharmacological properties:



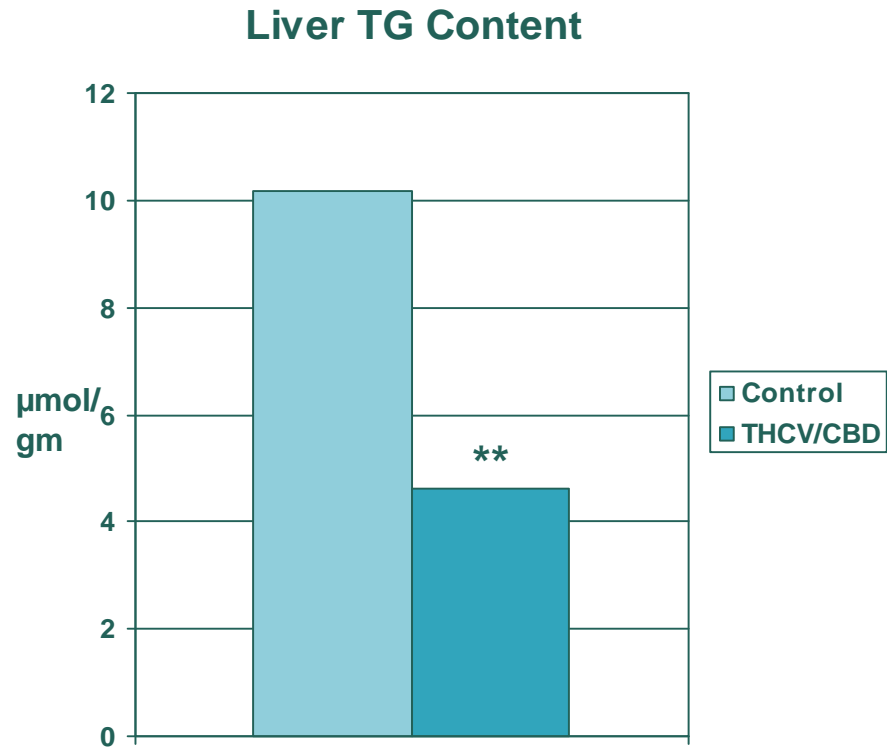
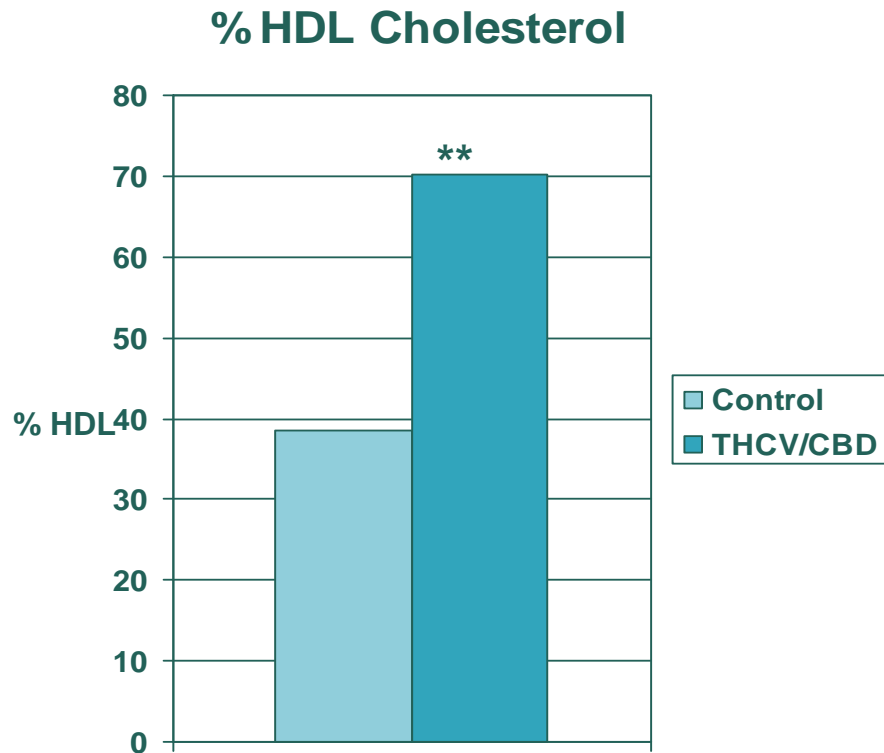
- Pharmacology programme already yielding highly promising results in psychiatric and oncology targets
- Initial focus on 6 GW cannabinoids. Research programme expected to be expanded H2 08 to include additional cannabinoids
- Aiming to advance first candidate to Phase II clinical trials

# In-House Pipeline Development: Diabetes / Metabolic syndrome

- Previous data reported for THCv
  - Promising pre-clinical data
  - Toxicology indicates no safety concerns to date
  - Phase I study successfully completed
- New pre-clinical data demonstrate CBD to an additional candidate in this area
  - Tox and Phase I study previously successfully completed
- Further study reveals that THCv:CBD combination may be an optimal new drug candidate to advance into Phase II trials
- In several models of diabetes, cannabinoid pharmacology findings include:
  - reduces fasting insulin
  - reduces leptin
  - reduces % body fat and liver triglycerides
  - increases energy expenditure
  - reduces total cholesterol
  - increases HDL (good) cholesterol
- GW planning Phase IIa multiple dose study of THCv:CBD in the treatment of dyslipidaemia in Type II diabetic patients

# Effect of THCV:CBD on % HDL (Good) Cholesterol and Liver Triglycerides

Methods: 28 day dosing in C57Bl/6 ob/ob mouse – a model of insulin resistance\*



THCV:CBD shows significant improvement in Cholesterol/HDL ratio and reduction in liver triglyceride content

\*Prof Mike Cawthorne, University of Buckingham

# Financial Highlights



**David Kirk**  
**Finance Director**



# Revenues

Six months / Year	31 March 2008 £'000	31 March 2007 £'000	30 Sept 2007 £'000
Sativex Sales - UK	429	268	625
Sativex Sales - Canada	190	155	488
<b>Total Sativex Sales</b>	<b>619</b>	<b>423</b>	<b>1,113</b>
<b>Revenue – R&amp;D Fees</b>	<b>4,126</b>	<b>-</b>	<b>2,464</b>
<b>Revenue – Signature fees</b>	<b>950</b>	<b>400</b>	<b>1,350</b>
<b>Revenue – Milestones</b>	<b>-</b>	<b>-</b>	<b>750</b>
<b>Total – Revenues</b>	<b>5,695</b>	<b>823</b>	<b>5,677</b>

## Consolidated Profit & Loss Account

Six months / Year	31 Mar 2008	31 Mar 2007 restated	30 Sept 2007 restated
£'000			
<b>Revenue</b>	<b>5,695</b>	<b>823</b>	<b>5,677</b>
Cost of sales	(136)	(85)	(254)
<b>Gross Profit</b>	<b>5,559</b>	<b>738</b>	<b>5,423</b>
R&D expenditure – GW-funded	(5,160)	(6,246)	(12,506)
R&D expenditure – partner-funded	(4,126)	-	(2,464)
Administration	(1,550)	(1,783)	(2,882)
Share-based payment	(372)	(666)	(1,130)
<b>Operating loss</b>	<b>(5,649)</b>	<b>(7,957)</b>	<b>(13,559)</b>
Interest receivable	464	393	958
<b>Loss before tax</b>	<b>(5,185)</b>	<b>(7,564)</b>	<b>(12,601)</b>
Tax credit	1,018	1,012	2,015
<b>Loss after tax</b>	<b>(4,167)</b>	<b>(6,552)</b>	<b>(10,586)</b>
Loss per share	(3.5)p	(5.5)p	(8.8)p

# Consolidated Cash Flow Statement

Six months / Year	31 March 2008 £'000	31 March 2007 £'000	30 Sept 2007 £'000
Operating cash (outflow)/inflow	(4,811)	1,950	(1,453)
Net interest received	443	357	960
R&D Tax Credit	2,191	-	2,022
Capital expenditure	(308)	(281)	(500)
Equity fundraisings – share options	7	13	62
<b>(Decrease)/Increase in cash</b>	<b>(2,478)</b>	<b>2,039</b>	<b>1,091</b>
<b>Cash balance</b>	<b>18,488</b>	<b>21,914</b>	<b>20,966</b>

## Consolidated Balance Sheet

As at	31 March 2008 £000's	31 March 2007 £000's restated	30 Sept 2007 £000's restated
Intangible assets - goodwill	5,210	5,210	5,210
Tangible assets	1,183	1,044	1,082
	<b>6,393</b>	<b>6,254</b>	<b>6,292</b>
Stock	608	665	535
Debtors	1,935	4,940	2,815
Cash	18,488	21,914	20,966
Deferred income < 1 year	(1,900)	(1,900)	(1,900)
Other creditors	(7,280)	(4,386)	(5,734)
<b>Net current assets</b>	<b>11,851</b>	<b>21,233</b>	<b>16,682</b>
Deferred income > 1 year	(16,349)	(18,249)	(17,299)
Provisions	(20)	(54)	(12)
<b>Net assets</b>	<b>1,875</b>	<b>9,184</b>	<b>5,663</b>

## Guidance for 2008

Previous guidance provided in January 08 was:

- Expect total R&D expenditure to rise by 25% - 40% including Otsuka funded activities
- GW-funded R&D expenditure to be in line with that incurred in 2007

We now expect:

- Total R&D expenditure for 2008 will rise by around a third (middle of the above range)
- GW-funded R&D expenditure is expected to be around £1m lower than in 2007

## Newsflow

- **Clinical trials**
  - Results of US clinical pharmacology studies H2 08
  - Results of Phase III MS Spasticity trial around year-end
  - Results first US cancer pain Phase II/III clinical trial H1 09
  - Start of Phase II metabolic programme (THCV:CBD) End 08
  - First Otsuka candidate to enter clinical trials
  - Peer review publication of clinical results
- **Regulatory**
  - New Zealand approval H2 08
  - MS Spasticity submission in Europe H1 09
  - Submissions in other countries H1 09
  - Approval in Europe and elsewhere H2 09
- **Research**
  - Progress of CNS and oncology Otsuka collaboration
  - Further metabolic syndrome research

## Summary

- Clear near term regulatory pathway for Sativex in Europe in MS spasticity
  - MS Spasticity trial to complete around year-end
- US prospects represent major value driver
  - Cancer pain programme funded by Otsuka
  - Phase IIb/III trial to complete H1 09
  - Data available for global regulatory use
- Sativex prescription use continues to expand
  - Increasing recognition by clinicians and governments of Sativex
- Cannabinoid pipeline expansion underway
  - Otsuka funding pipeline in CNS & Oncology
  - In-house metabolic programme of increasing interest and potential
- Encouraging financial results
  - Revenue growth, increased financial contribution from partners towards R&D
  - Strategy aimed at continuing this financial picture