



Cannabinoid Pharmaceuticals for Chronic Inflammatory Pain Conditions

AQSE : ANA | EIS and VCT approved | November 2023

Melissa Sturgess CEO



Complex, chronic inflammatory **pain conditions**

Chronic pain is one of the greatest unmet needs in healthcare

Current treatments for these conditions are **inadequate, costly or non-existent**



Lack of effective /
efficacious treatments



Adverse side-effects, quality of
life impacts, addiction



Extremely costly

The opportunity for cannabinoid medicines

The global anti-inflammatory drugs market is projected to reach **USD 118.4 billion by 2027**

	UK	US
Prevalence of chronic pain	~28 million chronic pain sufferers (35.0 – 51.3% of population) ¹	~50 million chronic pain sufferers ²
Huge cost of chronic pain	~£5bn a year being spent by NHS on Musculoskeletal pain ³ alone	~\$635 billion per annum total economic cost ⁴
Reduce opioid use	In 2022 the UK had the highest per capita rate of prescription opioid use for pain management in the world ⁵	~11 million adults with chronic pain using prescription opioids ⁶ Two-decade opioid crisis
Improved patient outcomes	Current treatments for chronic pain conditions are expensive, ineffective or come with unpleasant side-effects	



"We look for the intersection between that which we think could be possible and that which will make a difference in the world."

Regina Dugan, CEO, Wellcome Leap

1. 'Prevalence of Chronic Pain', 2016.
2. 'Chronic Pain Among Adults – United States, 2019-2021', 2023.
3. 'Musculoskeletal Health: A 5-year Strategic Framework for Prevention Across the Lifecourse', 2019.
4. 'The economic costs of pain in the United States', 2012.
5. 'UK is highest per capita consumer of opioids globally', 2021.
6. 'Prescription Opioid Use Among Adults With Chronic Pain: United States, 2019', 2021.

Ananda is addressing the opportunity

1. Developing NHS approved and MHRA licensed cannabinoid medicines for the treatment of specific inflammatory pain conditions (starting with CIPN & endometriosis)
2. Cultivation of medical cannabis flower for inhalation and oil extraction
3. Medical cannabis breeding programme to develop proprietary strains for inflammatory pain conditions

Cannabinoid oil formulations through MRX Medical



Pharmaceutical grade
cannabinoid oil
formulations

- Proprietary method of formulating EU GMP cannabinoid medicines for prescription and for use in clinical trials
- 5 patents pending



Two clinical trials
secured

- Phase II RCT using MRX1 cannabidiol oil to treat Chemotherapy Induced Peripheral Neuropathy
- Phase II RCT using MRX1 cannabidiol oil to treat endometriosis related pain



Further clinical trials and
patent applications

- In discussions with a range of researchers and universities regarding additional clinical trials, targeting Phase II and Phase III
- Patent applications to be made as new formulations and/or products are developed for additional trials



NHS + MHRA

- Use clinical trial results to have MRX medicines licensed for certain indications through the MHRA and/or made available for prescription on the NHS

NHS Approved & MHRA Licensed cannabinoid medicines

- 4 proprietary MRX cannabinoid formulations and a formulation method have been developed
- 5 patents pending
- Building a pipeline of RCTs starting with CIPN and endometriosis
- The ultimate objective is Licensed MRX cannabinoid medicines available on the NHS



THC free where required

meeting the specific calls for evidence from NICE and addressing regulator and specialist concerns about THC



Pharmaceutical grade

suitable for clinical trials and prescription as a medicine



Standardised

exactly the same from dose to dose


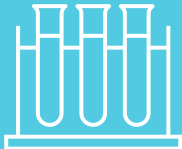
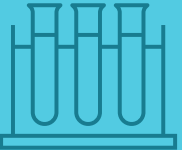



EU GMP and GDP compliant

using licensed manufacturers and suppliers

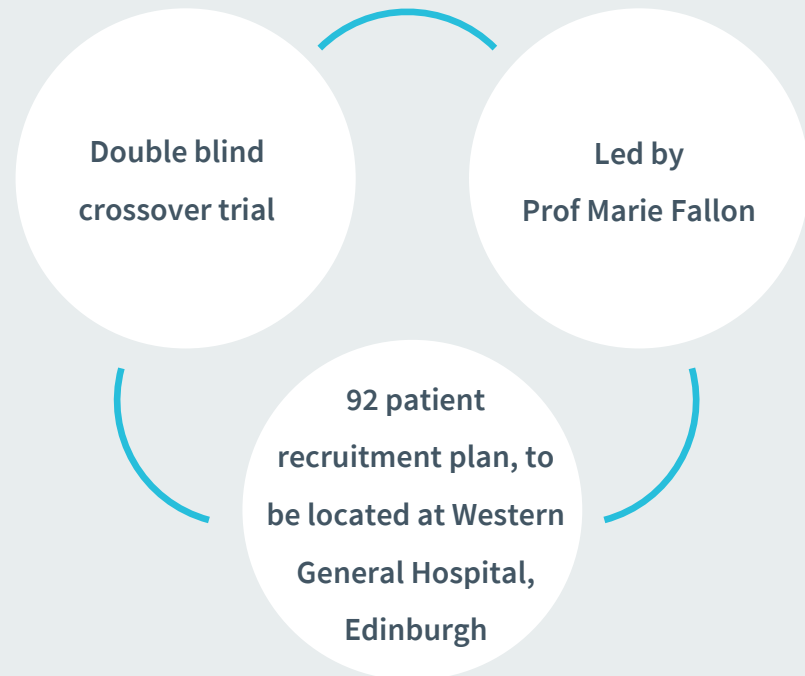
Clinical Trial Pipeline

Targeting Phase II and Phase III randomised controlled trials

Condition (product)	Phase I	Phase II	Phase III	Commercial Development
Chemotherapy Induced Peripheral Neuropathy (MRX1)				
Endometriosis (MRX1)				
<i>Targeting further clinical trials</i>				

Phase II RCT using MRX1 for CIPN

£1.25 MILLION NON-DILUTIVE THIRD-PARTY FUNDING COMMITTED



Phase II RCT of MRX1 Oral Cannabinoid versus placebo in the treatment of CIPN

Prof Marie Fallon - St Columba's Hospice Chair of Palliative Medicine and Honorary Consultant in Palliative Care. 256 publications, 10,486 citations. The University of Edinburgh.

"CIPN is a common and debilitating side effect of chemotherapy. 160,000 new cases p.a. in UK. No preventative treatment and symptomatic management commonly ineffective". Prof Marie Fallon

The CIPN global market was valued at US\$1bn in 2021 and is estimated to reach US\$1.5bn in 2030. Annual CAGR of 5.1%.

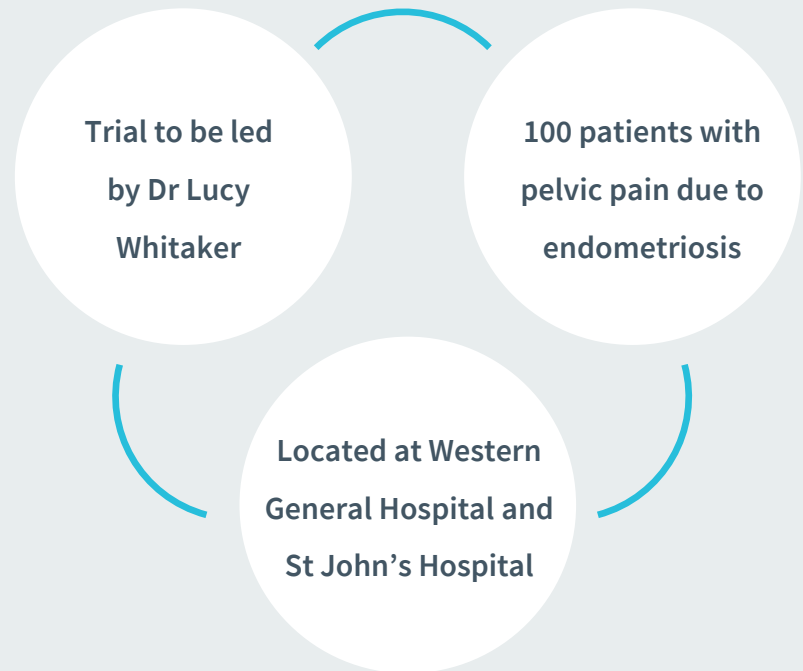


THE UNIVERSITY
of EDINBURGH



Phase II RCT using MRX1 for endometriosis

£300K NON-DILUTIVE THIRD-PARTY FUNDING COMMITTED from Chief Scientist's Office, NHS Scotland



Pilot RCT of the efficacy of MRX1 cannabidiol oral tincture in the management of endometriosis associated pain.



Dr Lucy Whitaker – Clinical lecturer in Obstetrics in Gynaecology, The MRC Center for Reproductive Health, The University of Edinburgh.



Prof Andrew Horne – Honorary consultant Gynecologist, co-director EXPECCT Centre for Pelvic Pain and Endometriosis. Fellow of Royal Society of Edinburgh. MRC Centre for Reproductive Health, The University of Edinburgh.



Prof Phillipa Saunders – Chair of Reproductive Steroids Centre for Inflammation Research, The University of Edinburgh.



10% of women suffer from endometriosis and currently the only treatments are surgery, anti-depressants or hormonal treatment. All with negative side effects.



Global market (7MM) worth \$1.05bn in 2020 and expected to achieve CAGR of 9.6% from 2020-2030



Ananda medical cannabis flower

Lincolnshire facility primed for commercial production



Site constructed

- Existing 12-hectare site, 4 growing tunnels (2,000 m²) , can increase to ~40 hectares
- 530m² state of the art laboratory, nursery, 3 growing rooms
- Home Office-compliant security system



Growing trials complete

- Completed 2022 and 2023 natural-season cultivation trials
- Lowest quartile cultivation cost per gram (natural season growing, no artificial light or heat)
- Balanced & high CBD cultivars ready to grow, production capacity 400,000 – 550,000 dry grams flower



Investment ready for commercial operations

- Current UK patient numbers over 30,000 and growing. Assume 1 gram per day (50% flower, 50% oil)
- MOU signed with Nottingham Trent University to progress applications to grant funding for low-carbon cultivation and manufacturing
- Partnership models being explored (full GMP or sale of GACP flower)
- Potential to produce approximately 400,000 – 550,000 dry grams of cannabis flower



Scalable

- Increase growing area to ~30 hectares, produce up to 75 tonnes dry flower
- Scale as market grows with potential for extraction of oils for MRX licensed medicines

Ananda medical cannabis – 2023 field season



Sage balanced cultivar (right), *Charlotte’s Web* high CBD cultivar (left), *Apocalypse* balanced cultivar (second on left)

Proprietary medical cannabis strain development

Industry is shifting from clones to seeds

Proprietary protocol

- Most commercial growers use mother plants & clones rather than seeds creating problems including cost, pests and diseases, limited variety selection
- Ananda has proven method of stabilising cannabis genetics in seed form
- Industry is maturing: Organigram \$8m investment in Phyllos Bioscience to move to seed cultivation

At 3rd of 6 generations

- Using proprietary methods Ananda is purebreeding a range of cannabis seed lines
- Achieving around 250 seeds per plant, currently 29,000 seeds in inventory
- At generation six, the seeds produced from these plants will be genetically identical (+98%)

Get to 6th generation

- MOU signed with Nottingham Trent University to access third party grant funding and accelerate progress to F6
- Identify the best seed lines for commercial development and further genetic work
- Ananda maintains ownership of its existing IP
- Stabilised strains open the door for further IP development

Cross breed and sell registered strains

- Use stable seed lines for cross-breeding and development of proprietary strains (like Monsanto or Syngenta for mainstream crops)
- Condition specific strains

Growing from seed vs clones



Seeds
Sprouting



Harvested
Seeds
(current inventory
29,000)



Plants
propagated
from seed

VS



Same
cultivar
propagated
from clones

Competitive Landscape

GW Pharmaceuticals sold to Jazz for USD7.2bn: only two licensed cannabinoid medicines for orphan conditions.



Opiates no longer first line of medication.



CBD: no acute side effects, evidence base increasing. 0% THC reduces barriers to prescribing on NHS.



Unmet needs – not trying to get market share.



Low cost, carbon friendly cultivation to ensure cost of production competitiveness in flower and extract market.



First mover in industry shift from clones to seeds.

The Board

➤ Charles Morgan Chairman

Co-founder. Honorary Doctor of Science in recognition of vision and commitment to entrepreneurship and innovation. Co-founder Clarity Pharmaceuticals (ASX:CU6)

➤ Melissa Sturgess BSc, MBA CEO

Co-founder. 25-year veteran of the small cap quoted equity space. Her expertise is in putting together people, projects and capital in complex regulatory and legal environments.

➤ Jeremy Sturgess-Smith Finance Director

Co-founder. Responsible for corporate finance, company secretarial, accounting and investor relations. Committee member of the Prescription Working Group of the Cannabis Industry Council. Also COO of Standard Listed URA Holdings Limited and a director of MRX Global Limited.

➤ Stuart Piccaver Non-Executive Director

Responsible for medical cannabis research cultivation, under contract, for GW Pharmaceuticals in 2014-2017.

➤ Prof Clive Page Independent Non-Executive Director

Professor of Pharmacology, King's College London and Chair of the British Pharmacological Society. Main research interests are in the pharmacology of inflammation and respiratory diseases. 2006 co-founder and previous Chairman of AIM quoted Verona Pharma plc, now a +\$1bn NASDAQ quoted company.

➤ John Treacy Independent Non-Executive Director

Experienced London-based, growth company financier. A qualified solicitor specialising in Capital Markets and Mergers & Acquisitions, before moving on to practice corporate finance in the advisory teams of several prominent UK brokerages.

➤ Dr Inbar Pomeranchik Non-Executive Director

Plant scientist and investment consultant specialising in life sciences and biotech.

AQSE : ANA (EIS & VCT Advanced Assurance)

Top 10

Name	% of Issued Share Capital
Lawshare Nominees Limited	32.60
Anglia Salads Limited	12.18
Redmayne/Nominees/Limited	10.84
Melissa Sturgess	8.05
Palace Trading Investments Limited	5.05
Barnard Nominees Limited	5.00
Hargreaves Lansdown/Nominees/Limited	2.85
Tim Fry	2.32
Frank Maio	2.32
Lynchwood Nominees Limited	1.75

Director holdings

Name	% of Issued Share Capital
Charles Morgan	39.63
Melissa Sturgess	14.10
Anglia Salads Limited*	12.79
Jeremy Sturgess-Smith	3.91
Clive Page	1.22
Inbar Pomeranchik	0.97

- Number of ordinary shares in issue: 2,736,347,451
- 27.39% in public hands.
- If all warrants and options were to be exercised, the dilutive effect on the current share capital of the Company is 22.32%.

*Stuart Piccaver is a Director and beneficial owner of Anglia Salads

Potential Value Inflection points

1. Clinical trials: Progress on 2 clinical trials. Further clinical trials announced.
2. Commercial cultivation: Partnership agreement for GMP construction. Wholesale flower cultivation agreements.
3. Breeding: Partnership on breeding programme. Registering of proprietary strains.
4. Establishment of a Cannabinoid Centre of Excellence with partners Nottingham Trent University

Thank you

Ananda will be presenting at the following events:

13th November, London
Investival Showcase (Day 1 of the Jefferies Healthcare Conference)

28th November, London
AQUIS Showcase Day

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