

1 October 2020

Company Announcements Office Australian Securities Exchange Exchange Centre 20 Bridge Street Sydney, NSW 2000

#### MEDLAB TO PRESENT AT KEY US INVESTOR CONFERENCES

Medlab Clinical Ltd (ASX: MDC) is one of very few companies globally with a clinical trial program underway for the use of medicinal cannabis for the treatment of cancer-related pain. The positive data generated in Phase I/II trials for our lead drug candidate NanaBis™ is focused on the potential to provide a viable alternative to opioids.

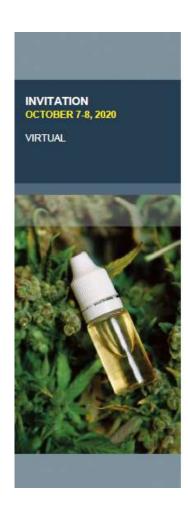
Medlab's progress with its clinical trials programs and drug registration path in Australian, US & UK are drawing increased international interest and in October Medlab has been invited to two leading industry investor conferences; The Jefferies US Cannabis Summit (Oct 7-8) — a virtual by invitation event with many global leading Cannabis companies involved and the BIO Investor Forum (Oct 13-15).

Dr Sean Hall, CEO of Medlab said "The drug development pathway that Medlab is pursuing, with respect to cannabis related offerings, is a differentiator and is somewhat unique. Investor interest in the US is now growing in biotech-led "FDA pathway" cannabis companies, which have the clinical data to validate quality, safety and medical claims in line with an expected global shift towards regulatory approved products."

The Key Points from our recent ASX Investor Deck posted September 21, 2020 will be presented at these conferences:

- The market opportunity for NanaBis™, targeting the treatment of cancer-induced bone pain.
- Detailed results of the previously reported Phase I/II trial outcomes which met primary and secondary endpoints, achieving a 40% reduction in pain (from baseline) and reduced dosage of opioids.
- Advantageous competitive positioning of Medlab
- Value of the NanoCelle® drug delivery platform which can be applied to a wide-range of known active
  ingredients and generic drugs. NanoCelle® has been applied to THC:CBD to create NanaBis™ a highly
  standardised medicinal cannabis product, delivered at sub-micron doses improving absorption and
  optimising performance.

Attached is a copy of the presentation prepared for the Jefferies Summit, which will then be replicated for the BIO Investor Forum.



#### Jefferies Virtual Cannabis Summit

Please join us for the Jefferies Virtual Cannabis Summit on October 7-8, 2020. We would be delighted to have you join us. The Summit will consist of a variety of panels focused on key topics in the emerging cannabis industry and an opportunity for 1x1 / Group meetings.

Format: Panels and 1x1 / Group Meetings.

Time: 7 AM - 7 PM

#### Confirmed companies:

Aurora Cannabis Inc. (ACB) Auxly Cannabis Group (XLY) Avicanna (AVCN) Canopy Growth (CGC) cbdMD (YCBD) Cellibre (Private) Charlotte's Web (CWEB CN) Clever Leaves (Private) CV Sciences (CVSI)

Delta 9 Cannabis (DN) EMMAC Life Sciences (Private) Fire & Flower (FAF CN) Flowr (FLWR)

Green Organic Dutchman (TGOD CN) Supreme (FIRE) Greenlane (GNLN) Green Tank (Private) GrowGeneration (GRWG) Helix Technologies (HLIX) Hexo (HEXO)

IM Cannabis Corp. (IMCC CN) Jane Technologies (Private) Kadenwood (Private) KushCo Holdings (KSHB) Materia Ventures (Private) Medipharm (LABS CN) Medlab (Private) Neptune Wellness (NEPT)

Nextleaf Solutions (CSE: OILS - OTCQB)

Organigram (OGI) Plena Global (Private)

Rubicon Organics Inc. (ROMJ CN)

Sundial Growers (SNDL)

Thought Leaders, Inc. (Private)

Valens (VLNS) Vivo Cannabis (VIVO) WeedMD (WMD)

If interested, please email izakoscielny@jefferies.com

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Any interested parties should contact either Jefferies (this is an invite only event) or BIO for registration details.

#### **END**

#### **Authorisation & Additional information**

This announcement was authorised by the Board of Directors of Medlab Clinical Limited.

#### About Medlab - www.medlab.co

Medlab Clinical Ltd is an Australian based biotechnology company, specialising in oncology related areas, such as pain management, quality of life and delivery platforms. Medlab holds multiple patents and is extensively published. Medlab's lead drug candidate is NanaBis targeting cancer bone pain.

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**Mediab Clinical Ltd (ASX.MDC)** 

Jefferies Virtual
Cannabis Summit

OCT 7 - 8, 2020

A differentiated, late-stage drug candidate addressing unmanageable cancer pain

Sean Hall MD, MBA (clin pharm mtg)



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# **Corporate Video**



https://vimeo.com/399043450



## TOP VIEW OF MEDLAB



Medlab is an Australian Biotech Public Company (ASX:MDC) focused on advancement in cancer related therapeutics

Core to this focus is NanaBis<sup>™</sup> with an advanced nanoparticle delivery platform, NanoCelle® focused on pain management of cancer patients with bone pain

#### **EXECUTIVE SUMMARY:**

- Progression thru FDA pathways for a Cannabis drug for cancer pain
- CMC is near completion and strong Tasmanian Alkaloids (SK Cap) partnered in CMC
- Targeting opioid use strong data to show opioid reduction
- Cancer pain is a huge market possibilities for chronic pain (later) bigger market
- Competitive positioning <u>www.clinicaltrials.gov</u> shows 13 trials, of which 7 were withdrawn (Sativex®), others include Tetra Biopharma and Aurora
- Key differentiator = NanoCelle® delivery platform superior delivery/uptake
- NanaBis<sup>™</sup> in market (AU) and gaining revenues
- Experienced team, strong pedigree, history of strong commercial deals



A NON-OPIOID ANALGESIC TO TREAT CANCER BONE PAIN

# Up to 75% of patients with bone metastasis endure crippling bone pain...

- Opioids or opioid derivatives remain the main method of treatment of cancer-related pain
- Despite the known side-effects of opioids, there's been little advancement in the management of cancer pain
- Extended patient life increases the burden of pain
- Abuse and toxicity profiles underpin a need for opioid alternatives
- Each year in the US, more than 2 million people abuse opioids. In 2016, an estimated 197,970 US hospital visits occurred for opioid-related poisonings



## WHY NANABIS™?

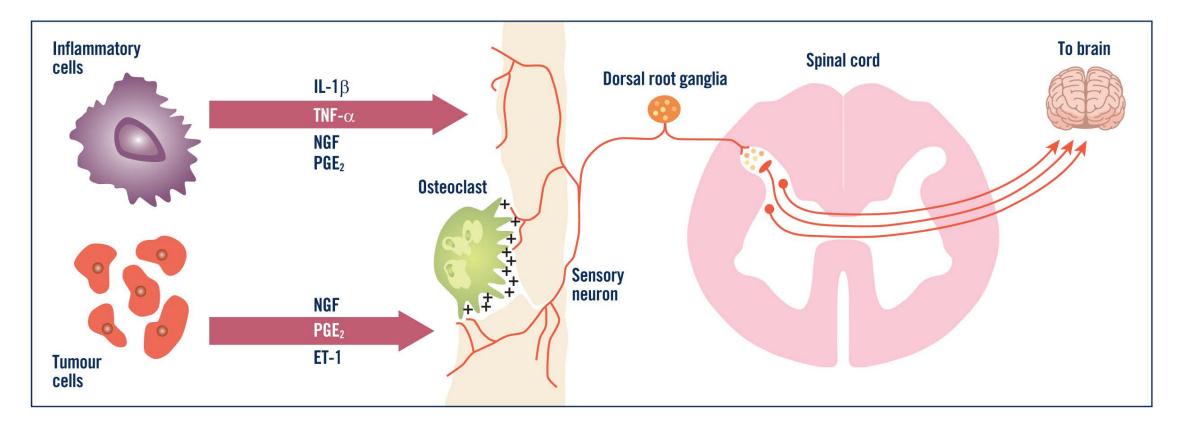
# **Scientifically optimised to perform better**

- 1 to 1 ratio THC and CBD
- Optimised by the NanoCelle® drug delivery platform for buccal in submicron doses (38nm) in an easy and convenient buccal spray
- High bioavailability, smaller doses and fast absorption into the bloodstream enhances performance and efficacy
- Highly purified, standardised blend ensuring pharmaceutical grade quality: GMP manufacturing and CMC (Chemistry, Manufacturing & Control) standards met

**Strong CMC** (Chemistry, **Manufacturing &** Control) + GMP manufacturing by **TASALK Robust clinical** trials program showing improvement **NanoCelle®** in pain scores delivery tech smaller doses / better performance **Patent Portfolio** medlab NanaBis<sup>™</sup> Investor Presentation P.6

## CLINICAL EXPERIENCE

The pathophysiology of metastatic bone pain involves both inflammatory and neuropathic mechanisms whereby the tumour cells cause hyperactivity of surrounding nociceptors, osteoclasts and immune cells, sensitizes pain afferent fibres and spinal cord pain neurons as well as upregulating descending nociceptive stimulation in the CNS. NanaBis™ acts at all these levels to reduce the sensitisation and injury of neurons, inhibit descending CNS nociceptive stimulation, and reduce the hyperactivity of the surrounding osteoclasts and immune cells



## IT'S ALL ABOUT DELIVERY

## Critical to NanaBis<sup>™</sup>, and not seen in other similar offerings is the unique delivery platform, NanoCelle®

- NanoCelle® is patented and optimised for buccal absorption, unlike other similar offerings, bypassing first pass metabolism, a digestive mechanism known to significantly diminish compounds at absorption
- NanoCelle® allows NanaBis<sup>™</sup> to rapidly cross the buccal membrane and utilises the facial lymphatics allowing for a rapid systemic response

NanoCelle® Patent (as at 22/09/20)							
Jurisdiction	Application no.	Filing Date	Status				
Australia	2016226280	02/03/16	Granted				
Canada	2978179	02/03/16	Filed				
Europe	1675948.3	02/03/16	Under Examination				
New Zealand	735138	02/03/16	Under Examination				
Singapore	11201707068X	02/03/16	Under Examination				
United States	15/555038	02/03/16	Under Examination				
Hong Kong	18103321.4	02/03/16	Filed				

## NanoCelle® Video

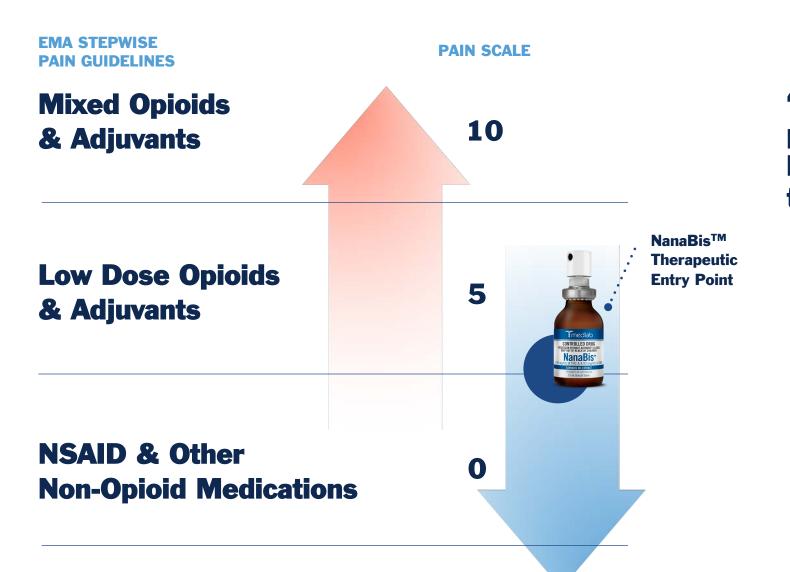








## WHY IS NANABIS™ IMPORTANT?



# "64% of all bone cancer patients are currently not helped by existing pain therapy" (Sep 2007 lit review)

- NanaBis<sup>™</sup> provides a viable alternative that can delay or alleviate the need to use opioids for pain management
- Effective and safe at the lower end of the pain scale – and used before progression to opioids
- Efficacious in patients with "unmanageable pain" that is not being controlled by opioids and other pain medication



## NANABIS™ CLINICAL EXPERIENCE

# Primary & Secondary endpoints met in Phase I/II study

- 30 advanced cancer pain patients, single ascending dose / multiple ascending dose
- Patient subset of breast or prostate cancers with bone metastasis had 40% improvement in pain scores from baseline
- Improvements in Quality of Life measures (emotional functioning and insomnia)
- MME (morphine in milligrams equivalent) significantly reduced - quantifiable measure of efficacy
- Maximum concentration in serum to be 54 minutes
- Results released in March 2020

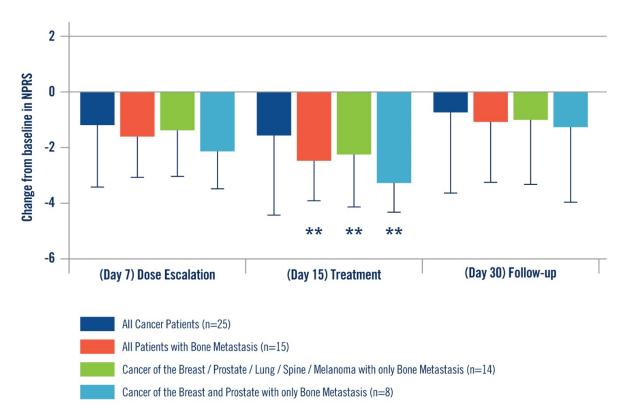






## NANABIS™ DEMONSTRATED A SIGNIFICANT REDUCTION IN MMEQ

Whilst dose tolerance was achieved at 60% of the maximum interventional requirement, it was demonstrated that cancer patients with bone metastases had significantly less morphine milliequivalents (MMEq) than patients with cancer <u>but</u> no bone metastases



SAMPLE 1 (all other cancers)							
Variable Obs.		Mean	Std. Dev.	Min.	Max.		
MMEq Day 1	17	214.0588	353.8235	15	1480		
MMEq Day 7	14	174.4286	300.4153	15	1150		
MMEq Day 13	14	225.2857	442.6972	15	1690		
MMEq Day 16	14	212	391.7297	15	1510		
MMEq Day 30	13	322.6923	714.5855	0	2650		

SAMPLE 2 (Breast & Prostate Cancers with Bone Mets)							
Variable	Obs.	Mean	Std. Dev.	Min.	Max. 126 126 119 119		
MMEq Day 1	8	61	38.95785	0	126		
MMEq Day 7	8	58	38.26225	0	126		
MMEq Day 13	8	57.125	37.14619	0	119		
MMEq Day 16	8	57.125	36.52568	0	119		
MMEq Day 30	8	64.5	51.23057	8	171		

## REAL WORLD DATA REPLICATES CLINICAL DATA

12-month observational (OBS) study underway, Data released every quarter

Patient JP "I have completely withdrawn from all opioids and recently walked the dog for a total distance of 1600m."

Patient EC "Stopped all medications as NanaBis™ has been able to reduce the pain significantly. I have a backup script for oxycodone which hasn't been filled."

## 556 of 2000

**Australian patients recruited (27.8%)** 

- Of which 15% in cancer-related pain, 85% in non-cancer-related pain
- Median averages = dosage 4 sprays per day corresponding to a 59.5% reported reduction in pain (unadjusted)
- Gender distribution = 58% female,
   42% male across ages 20 80+

## **Real-world data**

could expedite path to market

- Observational study is designed to provide real world evidence (RWE)
- Initiated following discussions with the US FDA regarding pathway to regulatory approval
- Strong body of RWE could reduce the total number of patients required to be observed in clinical trials

# 59% improvement in pain scores

**Consistent with Phase I/II study** 





## NANABIS™ NEXT MAJOR STEPS

Our progress validates our product, reduces the risk, increases commercial opportunities, and sets us apart as a world class offering

## Multiple milestones, creating news flow



### **US FDA IND**

US FDA IND filing
US FDA IND acceptance
Additional patents
Phase III trial preparations
Obs study quarterly progress report
Peer-review publication of Phase I/II
trial

## Phase III trial initiation:

US DEA Approval
UK MHRA / Home Office Approval
AU TGA CTN Approval
Clinical sites contracted
NanaBis™ to US & UK > first patient in,
study sites underway
Obs study quarterly progress report

## **Phase III Completion**

Enrolment complete
Phase III interim readout
Phase II final report
Obs study quarterly progress reports

## **US FDA Drug Filing**

Phase III Final Report
Phase III peer review publications
Obs study completion
New Drug Application filing



2023

## ACCEPTANCE OF US FDA IND AN IMPORTANT **VALIDATOR**

- Investigational New Drug (IND) application to be filed with the US FDA in late 2020
- IND acceptance is an important milestone - confirming merit of safety, quality and clinical data collected to date
- Already seeing concessions from global regulators
- Pursuing a regulatory pathway extends the market opportunity and gives patients and prescribers confidence in quality, safety and efficacy

**Unregulated medicinal cannabis** 

**Unknown Ingredients** 

Unknown Sources

**Adulterated Products** 

Does it impact current medications?

Trust?

Unknowns!



## **Regulatory approved product**

Evidence of safety

Evidence of efficacy and claims

**GMP** 

Manufacturing

Chemistry, manufacturing & control

Legality

Reimbursement or subsidies







## NANABIS™ COMPETITIVE POSITIONING

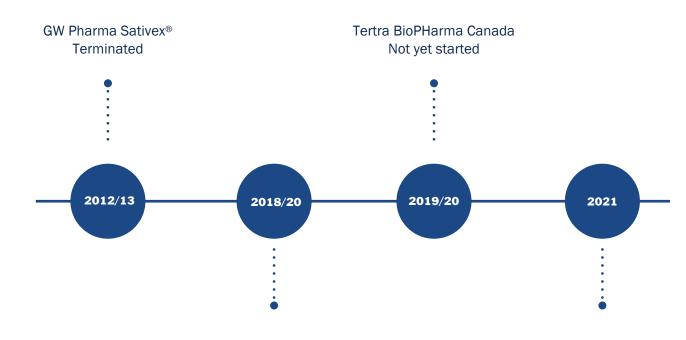
Currently 13 Trials on clinicaltrials.gov with "Cancer Pain" and "Cannabis"

- 7 are for Sativex® completed or terminated
- 4 of the balance "terminated or withdrawn"
- 1 is Aurora with a capsule Interventional
- Tetra BioPharma not yet recruiting & little information

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NIH U.S. National Library of Medicine

Clinical Trials.gov



Aurora Study / Canada

Phase 2 – expected Sep 2020

Whole plant extract / Oral delivery

Medlab
2019-2020 PI/II completed
2020 Observation Study – commenced
2021 – Phase 3 Trials proposed



## NANABIS™ HAS 1 COMPETITOR, SATIVEX® (FROM PUBLISHED

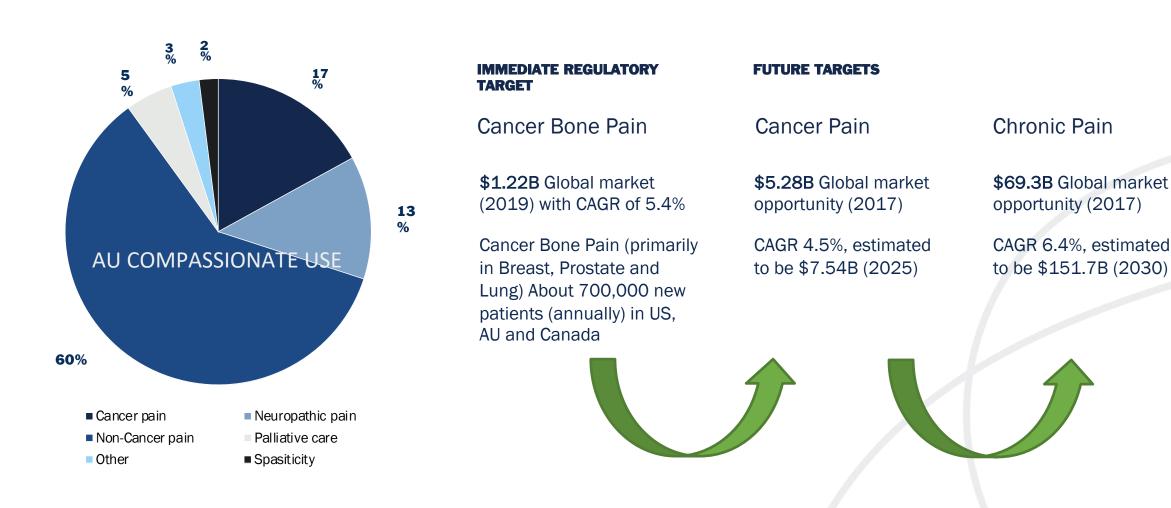
### LITERATURE)

- Early data emphasized Sativex<sup>®</sup> potential.
   NanaBis<sup>™</sup> early data showing improved outcomes
- It is known Sativex® failed at FDA whilst chasing out advanced cancer pain but received approvals in AU and other territories for non-cancer/pain claims
- Sativex<sup>®</sup> trialed as an adjunctive medicine, whereas NanaBis<sup>™</sup> is trialed as a monotherapy
- In comparison to Sativex<sup>®</sup>, NanaBis<sup>™</sup> at 1/2 the does provided a better PK response
- Due to the NanoCelle® delivery platform, NanaBis™ is NOT subject to 1st pass metabolism
- NanaBis<sup>™</sup> unlike Sativex<sup>®</sup> contains NO ethanol, and NanaBis<sup>™</sup> unlike Sativex<sup>®</sup>, is targeting a very homogeneous group of patients

	NanaBis <sup>™</sup>	Sativex <sup>®</sup>
Formulation	1:1 CBD and THC	1:1 CBD and THC
Dosage	Each 140 microlitre spray contains 1.25 mg THC and 1.25 mg CBD	Each 100 microlitre spray contains 2.7 mg THC and 2.5 mg CBD
Ethanol added to formulation		<b>✓</b>
Delivery route	Oro-buccal	Oral
Delivery platform (patent)	<b>✓</b>	
Target Therapy	Monotherapy	Adjunctive
Bypasses 1 <sup>st</sup> pass metabolism	<b>✓</b>	
PK Comparison	50% NanaBis™ = 100% Sativex®	50% NanaBis™ = 100% Sativex®
Early Trial published pain reduction	40% above baseline	30% above baseline
Patient target Group	Cancer/Bone metastasis	Cancer pain



# NANABIS™ — MARKET OPPORTUNITY WITH SIGNIFICANT GLOBAL POTENTIAL





## **NEAR TERM CATALYSTS**

## JUL -DEC 2021

- P3 progression statement
- Continual OBS Monitoring report

## JAN -JUN 2021

- US FDA IND approvals
- AU HREC approval
- UK HRA Approval
- US IRB Approval
- US DEA Approval
- NanaBis<sup>™</sup> receipted in US and UK logistics

- Site(s) initiation
- 1st patient in
- Continual OBS Monitoring report



- US and UK logistics sites for NanaBis<sup>™</sup>
- ✓ Site(s) agreements
- ✓ Continual OBS Monitoring report
- US FDA Application EA IND
- US FDA Application IND
- AU HREC Application
- UK HRA Application

Dr PD: Looking forward to other Medicinal Cannabis variations using NanoCelle® due to the successes of NanaBis™

Dr CM: I prefer to prescribe your products than other oils because of its NanoCelle® technology



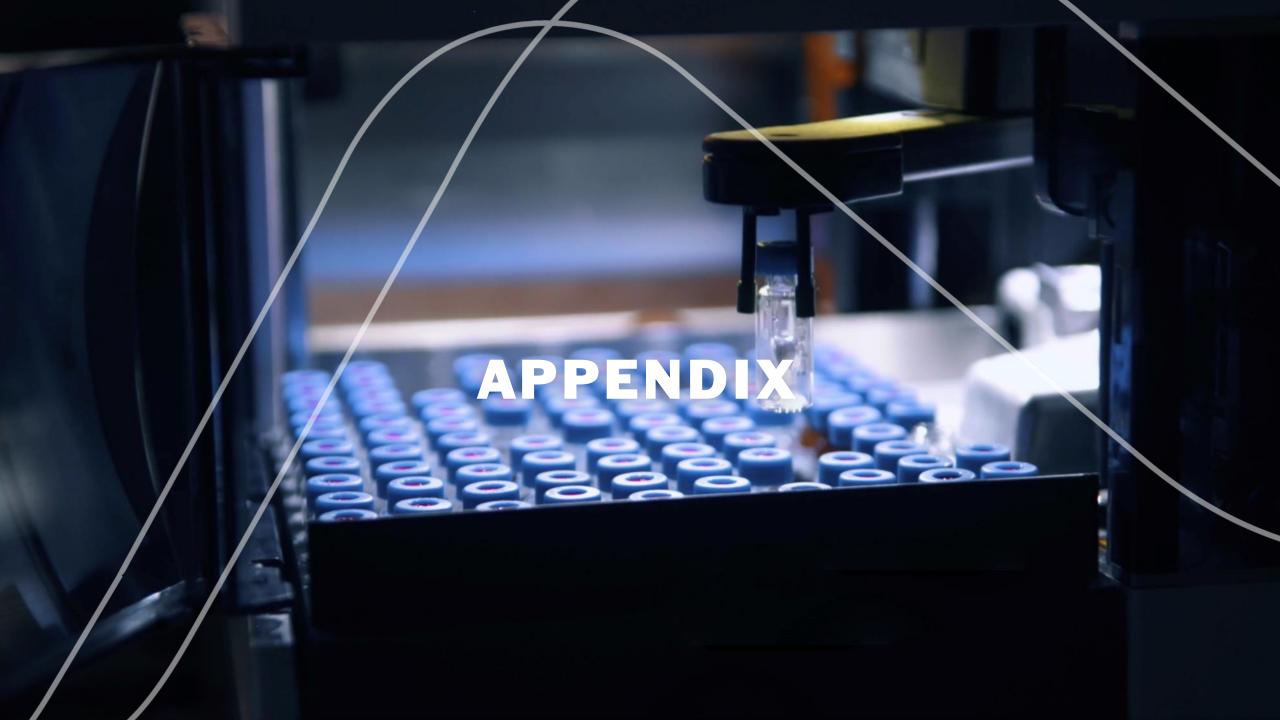
## **SUMMARY**

# NanaBis<sup>™</sup> 2020 opportunity – a potential company making event

- Large unmet need in pain management dominated by opioids
- Material trials success, reinforced by ongoing collection of real-world evidence
- Leading competitive position in "FDA pathway" strategy
- Delivering strong in market results today
- Validates the NanoCelle® platform







# COMPANY SNAPSHOT (ASX LISTED MDC)

### **NUMBERS SNAPSHOT**

LISTED 2015	\$0.20
CURRENT PRICE	\$0.185
MARKET CAP CIRCA	\$51M
AV DAILY TURNOVER (2020)	428K

### **MAJOR SHAREHOLDERS:**

SEAN HALL (DIRECTOR)	20.9%
FARJOY PTY LTD	11.0%
DREW TOWNSEND (DIRECTOR)	5.8%
MICHAEL HALL (DIRECTOR)	5.7%
UBS NOMINEES NOMINEES PTY LTD	2.7%
JP MORGAN NOMINEES AUSTRALIA PTY LTD	2.6%

Lead drug candidate is cannabis cancer bone pain

NanoCelle®
Delivery has
partnering
potential



## NANABIS™ PART OF A BROADER MEDLAB R&D PORTFOLIO

Multiple options for partnering or in-house development

NAME	INDICATION	PRE CLIN	SAFETY	P1	P2B	Р3	COLLABO	PRATORS		
Cannabis/plat	form									
NanaBis™	Cancer Pain (Bone Met)					Underway	AGILEX	TASMANIAN	Nitto Averia	THE UNIVERSITY OF SYDNEY
NanaBis™	Non-Cancer Pain						AGILEX	TASMANIAN	scientia	
NanoCBD™	Anxiety						Nitto Avecia			
NanoCelle® P	latform									
NanoStat™	Cholesterol Lowering						ZenTech			
Lidocaine	Pain									
Fexofenadine	Allergy									
Chloroquine	Anti-Malaria/Covid 19									
Metabolomic										
NRGBiotic™	Depression				Aw	aiting Results	THE UNIVERSITY OF QUEENSLAND AUSTRALIA	QUT Queensland University of Technolog	,	
Mesothelioma	Large Bowel Cancer								-	modla



## **BOARD OF DIRECTORS**



Dr Sean Hall

MD, MBA (Clin Pharm Mgt)
CEO & Managing Director



B.Com, CPA Non-Executive Chairperson

**Michael Hall** 



B.Com, CA, MAICD, Non-Executive Director



Laurence McAllister

Non-Executive Director



## **EXECUTIVE AND MANAGEMENT TEAM**



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BSc (Hons), PhD, MD, GradDip Nutr/Environ Med, Grad Dip Integ Med Director of Medical Research



**Tony Potter** 

BSc (Hons), Dip Management GM Pharma, Commercialisation & Education



**Alan Dworkin** 

CA, ACSA, GAICD, Chief Financial Officer, Chief Operations Officer, Company Secretary



**Dr Jeremy Henson** 

MBBS PhD BSc (Hons) Medical Affairs Director



**lan Curtinsmith** 

**Chief Information Officer** 



**Dr Patrick Miller** 

Director of Pharmacovigilance & Regulatory Affairs



**Dr David Rutolo, Jr.,** 

PhD, JD, Director of Science



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MbBS MD PhD FRACP



Ass Prof Wojciech Chrzanowski MSc, PhD, DSc



Dr Andrew Mclachlan

BPharm (Hons1 Medal), PhD,
FPS, FACP, McPA, MSHPA



PhD

**FACHPM FAAHMS** 

**Dr Mathew Bambling** 



Dr Esben Strodl





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Commercialisation and Business Consultant - MBA (Clin Pharm Mgt), Executive Director at BioAdvantage PTY Ltd



**Benjamin L. England** 

Regulatory Representation and Counsel - Founding Member/CEO Benjamin L England & Associates, LLC | FDAImports.com, LLC



**ERA Consulting Group** 



**Tasmanian Alkaloids** 

Manufacture and analytical



Agliex Biolabs Pty Ltd Human Assay, pathology



Nitto Avecia

Analytical



Aphria. Inc

Biomass supplier





## **THANK YOU**

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