Avecho

Avecho Update
January 2021

www.avecho.com.au | ASX:AVE

Safe Harbour Statement

This presentation, and any representations made before, during or after the presentation, may include forward-looking statements that are inherently subject to risks and uncertainties. These statements relate to, but are not limited to: (1) the safety or efficacy of, or potential applications for, Avecho's TPM® platform technology; (2) the strength of Avecho's intellectual property; (3) the timelines for Avecho's clinical trials and regulatory processes for its different products; (4) the scalability and efficiency of manufacturing processes; (5) revenue projections, market share expectations, share price expectations and capital requirements.

Actual results may differ from the expectations expressed in these forward-looking statements, and the differences may be material (whether positive or negative). The risks that may cause Avecho's actual results, performance or achievements to be materially different from those expressed or implied by such forward-looking statements, include but are not limited to: (1) risks inherent in the development, approval and commercialization of potential products; (2) uncertainty of clinical trial results or regulatory approvals or clearances; (3) changes to market trends or government laws or regulations; (4) the potential need for future capital; (5) dependence upon collaborators; and (6) protection of intellectual property rights, among others. Accordingly, you should not place undue reliance on these forward-looking statements.

Company Snapshot

Shares	1,598M
Market cap	$43.2M
Options	87.6M
Cash [1]	$2.64M
Last qtr gross burn [1]	($0.5M)
Headquarters	Melbourne
Board	Greg Collier (Chair) Ross Murdoch (NED) David Segal (NED) Matt McNamara (NED)
Substantial shareholders	Mark Kerr (12.7%)

[1] *Quarter ending 30 September 2020*

Avecho – YTD price and volume

Price: 11 Jan 2021: $0.027 12mth High / Low: $0.045 / $0.002 4wk av. vol: 10.6M

* Program Announcements

Avecho Management & Board

Dr Paul Gavin
Chief Executive Officer

- 18yrs Avecho
- pharma development
- TPM ® inventor

Dr Roksan Libinaki
Chief Operating Officer

- 18yrs Avecho
- animal health development
- TPM® manufacturing

Melanie Leydin
CFO and Company Secretary

- 23yrs accounting
- Inst. of Chartered Accts
- Director Leydin Freyer

Dr Greg Collier
Chairman

- 20+yrs biotech exec experience
- ex-CEO Chemgenex (sold $200M+)
- 150 publications, 33 patents
- Roche Award for Excellence

Dr Ross Murdoch
Non-Executive Director

- 25+yrs biotech exec experience
- CEO Tasmanian Alkaloids
- ex-CEO Avecho (2015-2019)
- ex-SVP Shire Pharmaceuticals

David Segal
Non-Executive Director

- 30+yrs experience stockbroking
- shareholder in AVE since 1999
- previous IR manager for AVE

Matt McNamara
Non-Executive Director

- 30+yrs experience healthcare
- 20+yr venture capital
- previous CIO Bioscience Managers

Overview of Avecho's TPM® technology

TPM® is a proprietary combination of two forms of phosphorylated vitamin E

TPM® is a unique excipient that encapsulates drug molecules

TPM® has been used to formulate drugs to improve their:

- solubility
- stability
- oral bioavailability
- transdermal delivery
- pharmacokinetic profile

TPM® has an excellent safety profile making it ideal for drug reformulation

TPM® reformulated drugs have:

- improved pharmaceutical properties and performance
- provide opportunities to secure additional patent protection

Propofol TPM®

With TPM®

Without TPM®

Strategic Focus

Avecho has a clear, strategic focus to deliver on two fronts:

Realise value from its portfolio of existing human and animal health assets

- Minimal investment going forward
- Active business development effort
- Focus on deals that provide near-term cash
- Multiple assets to license

Leverage its proprietary TPM® platform to develop new cannabinoid-based pharmaceuticals

- TPM® is ideal for formulating cannabinoids
- Allows the creation of highly differentiated products
- Will address long term needs of medical market

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Human and Animal Health

Overview of Human Health Assets

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Human health assets

Priority

Priority products for licensing with the aim to secure a commercial deal for 1 or more of these products over the next 12 months

- Daptomycin TPM®
- Propofol TPM®
- Vitamin K TPM®

Prospective

Assets ready for ongoing business development effort and presentation to potential partners over the next 12 months

- Oxycodone TPM® patch
- Oxymorphone TPM® patch
- TPM® injectable portfolio
- Diclofenac TPM®
- TPM®

Daptomycin TPM® - Partnering Opportunity

Daptomycin is an antibiotic that became generic in 2016 which is used for the treatment of Methicillin-Resistant Staphylococcus aureus (MRSA)

US sales of daptomycin were US$700M in 2018 with $465M coming from the sale of generics ($205M Teva, $180M Fresenius, and $80M others)

While daptomycin is more efficacious than vancomycin for treating MRSA, its adoption has been constrained by reconstitution and stability issues

Formulation with TPM® addresses these reconstitution and stability issues providing an opportunity to secure market share with a superior product

Product development is advanced with minimal work required to compile a New Drug Application package for submission to the FDA

Drug	Reconstitution	Stability – room temp	Stability - fridge
Daptomycin	~20min	12hr	48hr
Daptomycin TPM®	**< 5min**	**24hr**	**72hr**

Propofol TPM® - Partnering Opportunity

Propofol is an intravenous anaesthetic used for general anaesthesia in surgical patients, with a global market of ~$1Bn USD

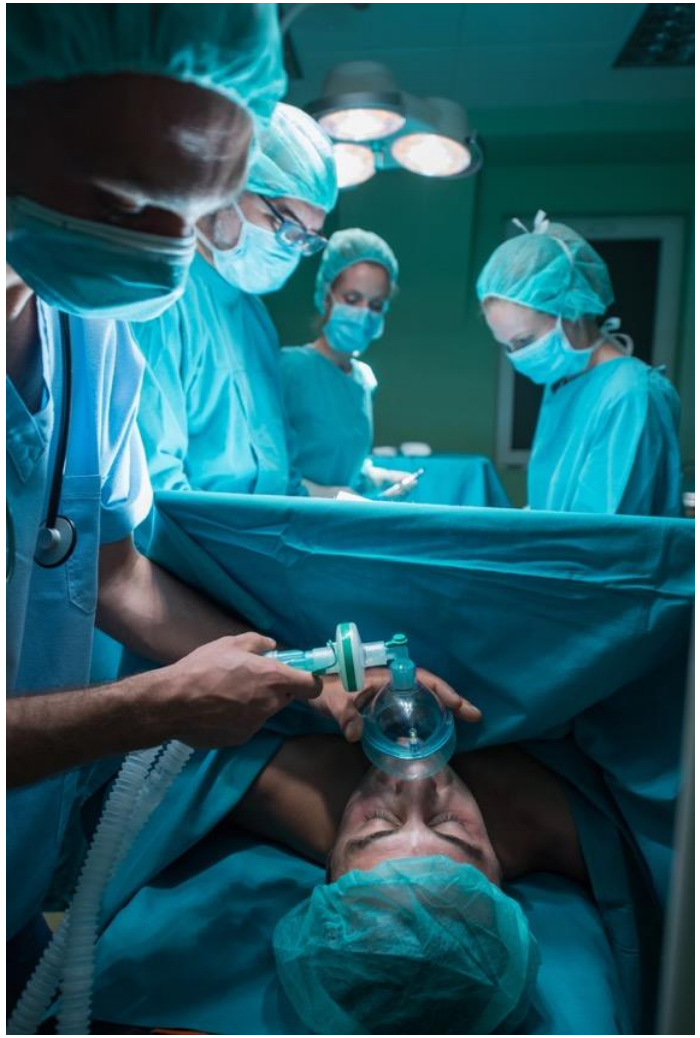
Propofol is an oil which has been formulated as an opaque emulsion comprising of 1% drug in 10% soya oil plus water

While effective as an anaesthetic, this formulation of propofol is:

- opaque, making quality control/quality assessment difficult
- susceptible to microbial growth after contamination
- an emulsion that is unstable and can separate
- forms lipid droplets that may result in pain at the site of injection

Avecho has developed a TPM® formulation of propofol which is a clear microemulsion

Avecho has recently conducted toxicology studies examining 24hr infusion of the product and confirmed it's safety over longer infusion periods.



Vitamin K TPM® - Partnering Opportunity

Vitamin K is an essential factor required for blood clotting and is administered to:

- all newborns to prevent vitamin K bleeding deficiency (VKBD)
- adults with coagulation disorders resulting from vitamin K deficiency or interference

Global sales of Vitamin K were US$374M in 2019 and are forecast to grow to US$640M by 2026

As Vitamin K is insoluble in water, commercial formulations in most markets contain Cremaphor® or Polysorbate 80; both which can cause potentially lethal adverse reactions

Avecho has developed formulations of Vitamin K using TPM® which are:

- free of problematic excipients (Cremaphor, Polysorbate 80, Lecithin)
- stable for 2yrs
- suitable for dosing paediatric (2mg/ml) and adult (10mg/ml) patients

These formulations may only require a single animal toxicity study and a single human bioequivalence study to support applications for regulatory clearance

Other Human Health Assets – Partnering Opportunities

Product	Opportunity	Status
Oxycodone TPM® patch	Transdermal patch providing sustained pain relief with reduced side effects	Steps required for US filing established
Oxymorphone TPM® patch	Transdermal patch sustained pain relief with reduced side effects	Pre-IND meeting with FDA completed, steps required for US filing established
Diclofenac TPM® gel	Faster pain relief with longer duration	Sold in India under license by Novartis India/Themis Medicare. Regulatory approvals pending in 16 other markets
TPM® Injectables	Broader dosing options and elimination of problematic excipients	Reformulation and up to 2yrs stability studies completed
TPM®	Manufacturing rights for Human Health applications available for licensing or sale	Human health manufacturing owned by Avecho

Animal Health

TPM® has shown promise as an additive to feedstock:

- improves feed efficiency for faster weight gain and stock turnover
- improves meat quality and potential shelf life
- can improve animal health and disease resistance
- is a non-antibiotic alternative to banned antibiotic growth promoters

Multiple parties currently undertaking evaluation studies using TPM® prior to initiating commercial licensing discussions

- Avecho has retained manufacturing rights for Animal Health uses

Application for use of TPM® as a feed additive under review with the European Food Safety Authority (EFSA)

No further investment or development planned

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Cannabinoid Pharmaceuticals

Cannabinoid-based Pharmaceuticals

In the past decade, there has been a transformational shift resulting from a recognition of the therapeutic potential of cannabis and cannabis extracts

The majority of countries around the world have recently enacted legalisation permitting the use of cannabis extracts for medicinal purposes

Due to the previous illegal nature of cannabis, R&D into its medicinal uses has been minimal resulting in:

- limited data on its therapeutic benefits and risks
- limited development of suitable formulations and delivery formats
- poor integration in existing healthcare practices

The majority of medicinal cannabis products currently being prescribed are based on botanical material or plant extracts, both of which can be highly variable

In the longer term, patients and doctors will require pharmaceutical products

Potential use in multiple therapeutic areas

Data from available clinical studies supports the use of cannabinoids for a range of different medical conditions

<u>Conclusive or substantial evidence</u>

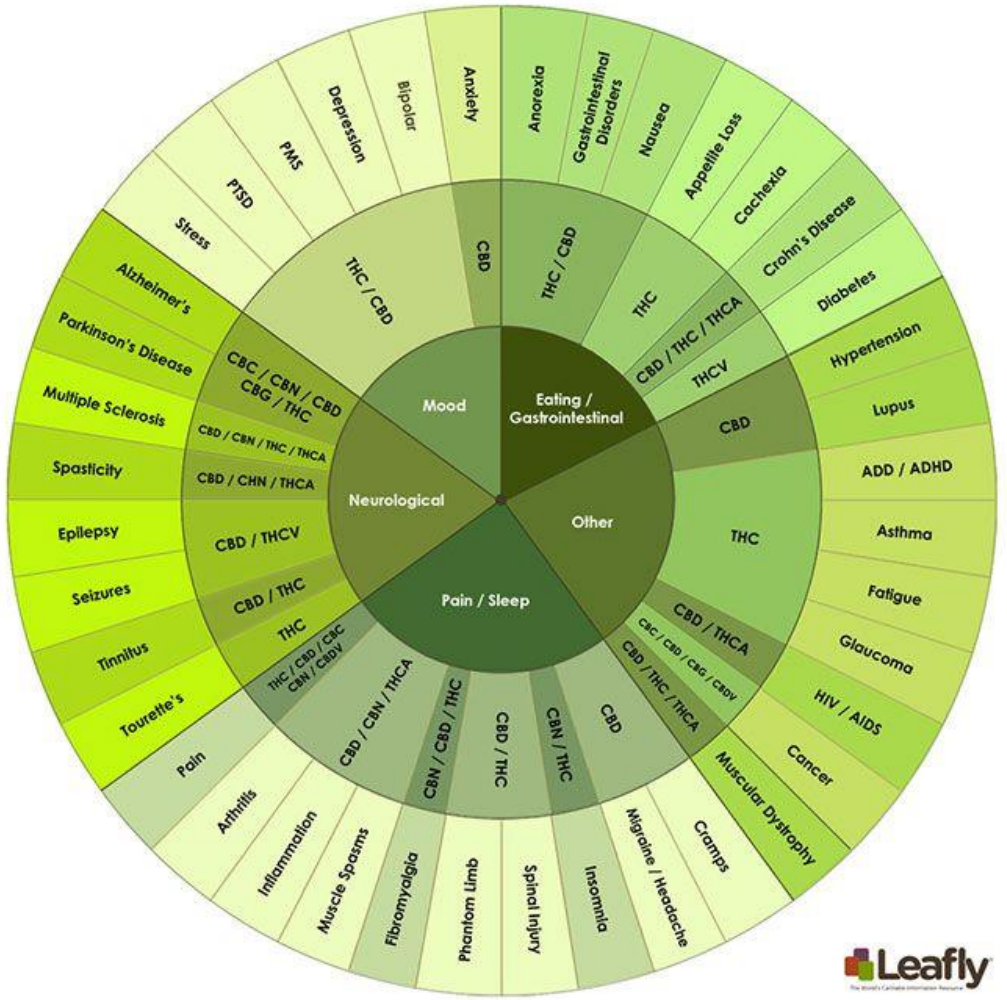
- chronic pain
- chemo-induced nausea and vomiting
- multiple sclerosis spasticity
- treatment-resistant seizures in children

<u>Moderate evidence</u>

- improves sleep disrupted by medical conditions

<u>Limited evidence</u>

- appetite/weight loss associates with HIV/AIDS
- Tourette syndrome
- reducing anxiety symptoms
- improving post-traumatic stress disorder (PTSD)

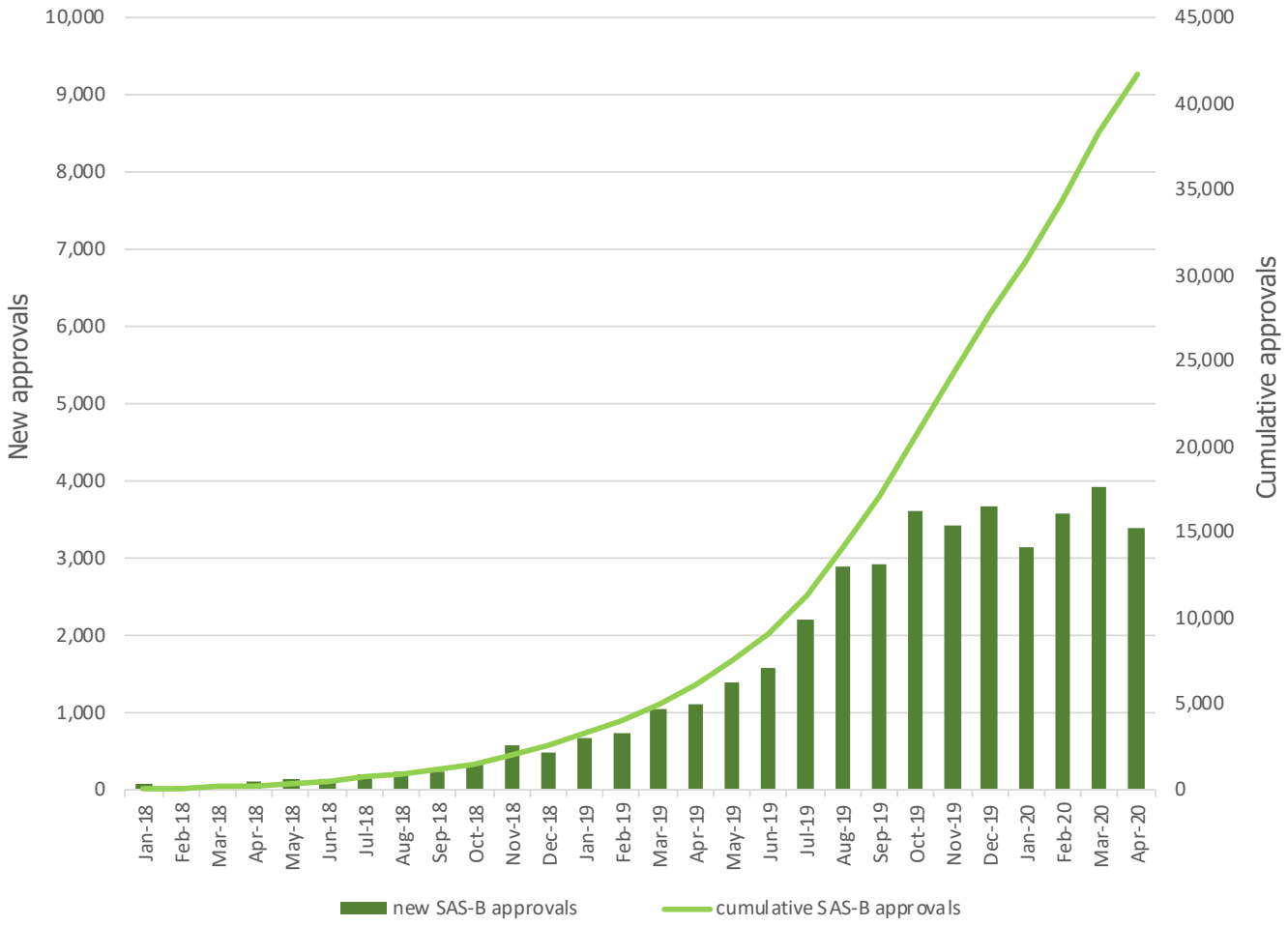


2017 – The Health Effects of Cannabis and Cannabinoids, DOI: 10. 17226/24625 http://www.nap.edu/24625
2017 – Trial of Cannabidiol for Drug-Resistant Seizures in the Dravet Syndrome, NEJM 376: 2011-2020 DOI 10.1056/NEJMoa1611618

Growing market for therapeutic uses of cannabis

- In more mature markets (Canada, Colorado and California), around 1-2% of the population use cannabis products for therapeutic purposes
- In Australia, this would equate to 250,000-500,000 potential patients that could benefit from using therapeutic cannabis products
- Fresh Leaf Analytics[1] estimates there will be ~30,000 active Australian patients by end-2020
- As cannabis products are not registered as medicines in Australia, patients currently have to pay for them out-of-pocket
- Australian patients are currently paying $250-400/mth to access cannabis products

Australian approvals for medicinal cannabis prescriptions[2]



[1] Fresh Leaf Analytics Q3 2020 – Australian Medicinal Cannabis Market
[2] https://www.tga.gov.au/access-medicinal-cannabis-products-1

Medical market likely to focus on pharmaceutical products

Pharmaceutically developed products are expected to dominate the medical cannabis market in the long term:

- standardised pharmaceutical delivery formats
- clinical safety and efficacy data
- registered products are physician preferred

Patient registrations have typically slowed, and even declined, in markets following the legalisation of consumer use of cannabis:

- many patients self-diagnose / self prescribe
- precise dosing and cannabinoid profile not critical for many indications
- flexible delivery format (vaping, edibles) possible for some patient groups

Long term, the medical market is expected to comprise of premium-priced, pharmaceutical-type products targeting:

- specific indications
- specific patient groups, such as pediatric or elderly patients
- patients on other medications or who have other contra-indications
- conditions that require precise or specific dosing

TPM® is ideal for pharmaceutical formulation of cannabinoids

Cannabinoids (the key active compounds in cannabis) are oil soluble molecules with low solubility in water

Oil soluble molecules have poor oral bioavailability, which is also true for cannabinoids (3-8% absorbed)

This presents challenges for developing formulations that can deliver cannabinoids to the body efficiently

With other oil soluble molecules, formulations with TPM® have:

- increased aqueous solubility – allowing new dosage forms
- improved bioavailability and absorption – better therapeutic profile
- allowed optimisation of pharmacokinetics – speed and duration of affect
- increased stability - major issue with current cannabis oils and extracts

TPM® provides Avecho with an opportunity to develop proprietary, cannabinoid pharmaceuticals which perform better than other medicinal cannabis products

Focus is on developing pharmaceutical cannabinoid products

Avecho intends to use TPM® to develop cannabinoid-based pharmaceuticals:

- with known and consistent dosing
- delivered in a familiar, pharmaceutical format
- backed by robust clinical evidence
- able to be manufactured at scale

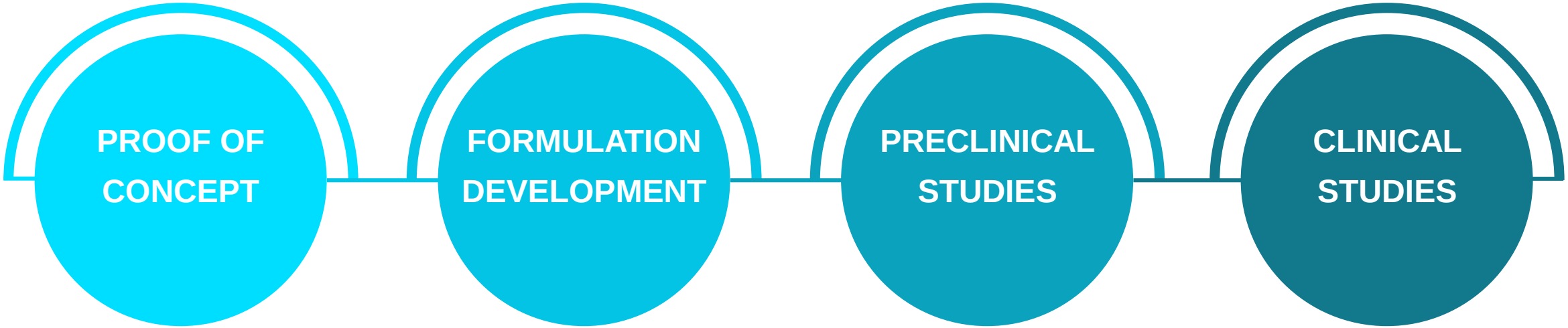
Taking a pharmaceutical approach for cannabinoid-based medicines:

- integrates with current medical practices
- supports potential registration and payment coverage
- less vulnerable to competition from consumer products
- differentiates products from those in the medicinal cannabis space

Avecho's pharmaceutical development will also support licensing into the :

- pure synthetic cannabinoids – supply agreement with PuriSys
- cannabinoid extracts – supply agreement with Extractas Bioscience (formerly Tasmanian Alkaloids)

Plan for developing TPM® formulation of cannabinoids



COMPLETED	COMPLETED	COMPLETING	2021
Demonstrated that TPM® can improve the solubility of cannabinoids	Demonstrated that TPM® formulations can improve the solubility of cannabinoids during in-vitro digestion experiments	Animal studies demonstrate significant increases in oral CBD bioavailability. Identifies key candidate formulations	Human safety, pharmacokinetic and efficacy data from clinical studies in patients

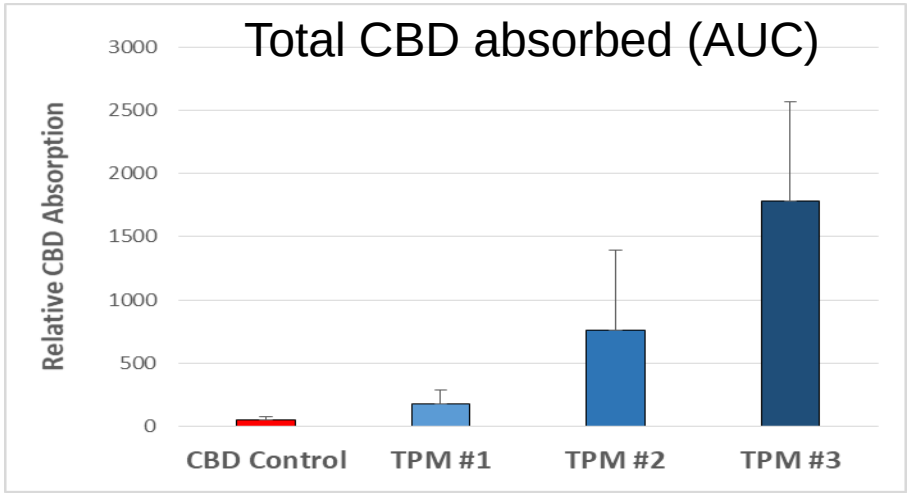
TPM® formulations increase oral bioavailability of CBD

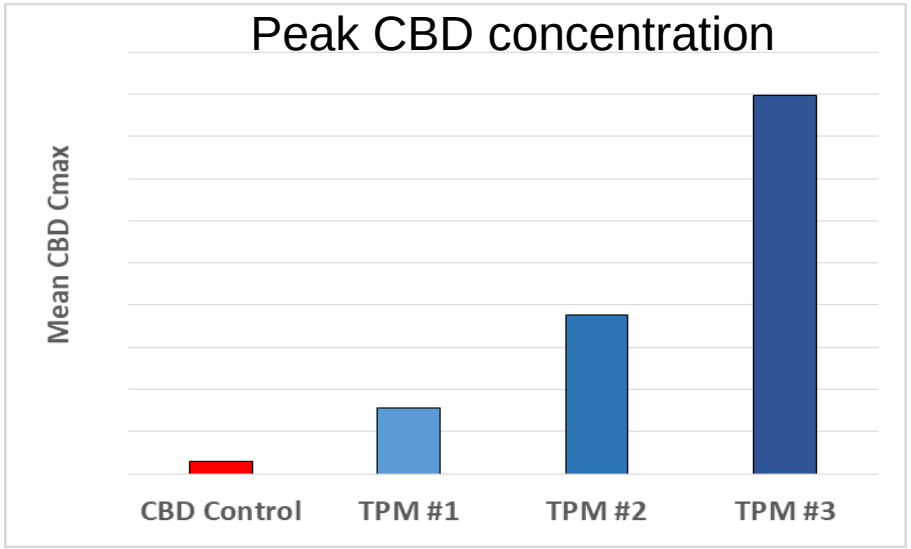
Research conducted at Bioneer:FARMA in Copenhagen

Rats received a single oral dose of CBD and drug content measured in the blood over time. Absorption from TPM® formulations compared against CBD in MCT (as sold to patients).

- ✓ All TPM® formulations produced higher mean AUC and Cmax than the commercial CBD formulation.
- ✓ Increases in AUC produced by TPM® formulations ranged from ~**4-40 times**
- ✓ Increases in Cmax produced by TPM® formulations ranged from ~**6-41 times**
- ✓ These increases were statistically significant for the best performing TPM® formulations.

TPM® formulations to be taken forward into clinical trials





Confirmed increase in bioavailability leads to…

- ✓ Greater therapeutic effect
- ✓ New indications, previously untreatable because of high doses required
- ✓ Reduced dosing for increased patient safety
- ✓ Reduced dosing for cost savings to patients
- ✓ Less variability between doses; patient/physician preferred

- ✓ **Product differentiation in an undifferentiated market – opportunity for licensing in unregulated medicinal cannabis space**

- ✓ **Avecho product could take advantage of proposed TGA CBD S3 scheduling**

Cannabinoid clinical trials to begin Q1 2021

Two parallel trials to support the development of the pharmaceutical product, and licensing/sales through SAS-B

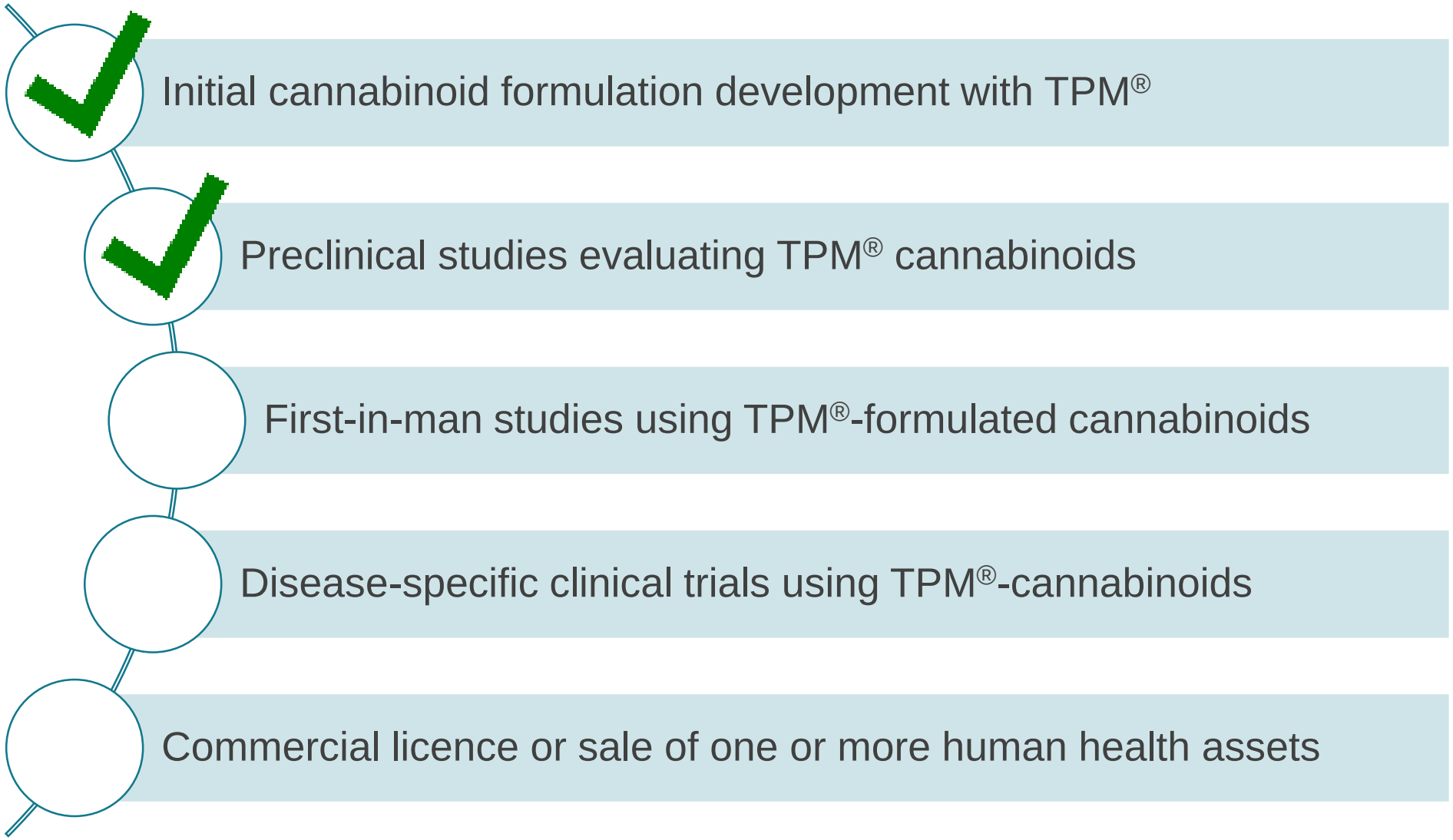
Phase I Clinical Trial

- Characterises delivery profile from product
    - Duration, Cmax, Tmax, “bioavailability”
- First step toward registered pharmaceutical
- Pre-cursor to Phase II/III
- Serious GCP study
- Supports potential S3 registration

Observational Clinical Trial

- Real world customer feedback on product
- Demonstrates consumption relative to control
- Highlights indications of value for Phase II
- Eliminates non-responsive indications
- Toe in the water for SAS-B sales/logistics
- Groom future prescribing physicians

12 Month News flow communicated in June



Avecho is an exciting investment opportunity

- **Attractive valuation**: Valued like a start-up, but ~20 years of R&D and multiple, licensable assets
- **Multiple pharmaceutical assets** currently the focus of a BD campaign. Opportunity for multiple deals
- **Enhanced cannabinoid products** with demonstrated advantages in a lucrative, but undifferentiated market
- **Numerous value adding milestones/newsflow** expected over the next 12 months, with share price already on the move
- **Experienced Management / Board** with strong track record of success
- **Sufficient cash** for upcoming clinical program. No debt. Tax losses >A$100M

Contact

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