

Company Update – August 2020 Michael Winlo – MD & CEO Evidence Generating Care www.emeraldclinics.com.au

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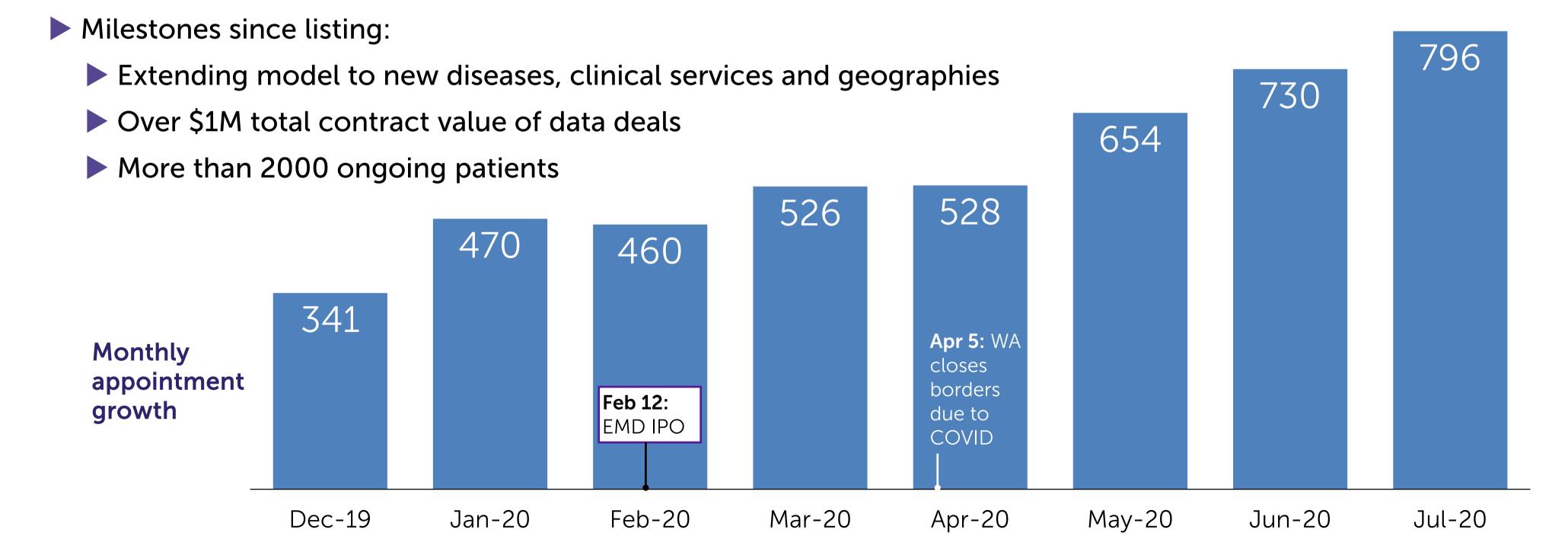
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Presentation release authorised by Michael Winlo, CEO and Managing Director

### Funding history & milestones in first 6 months



- Listed on the ASX, 12 February 2020 (ticker: EMD)
- ▶ IPO funding \$6m | Last reported cash position (Q2, 2020): \$3.7M | Market cap: ~\$14.4M (18 Aug 2020)



### Company focused on Real World Evidence

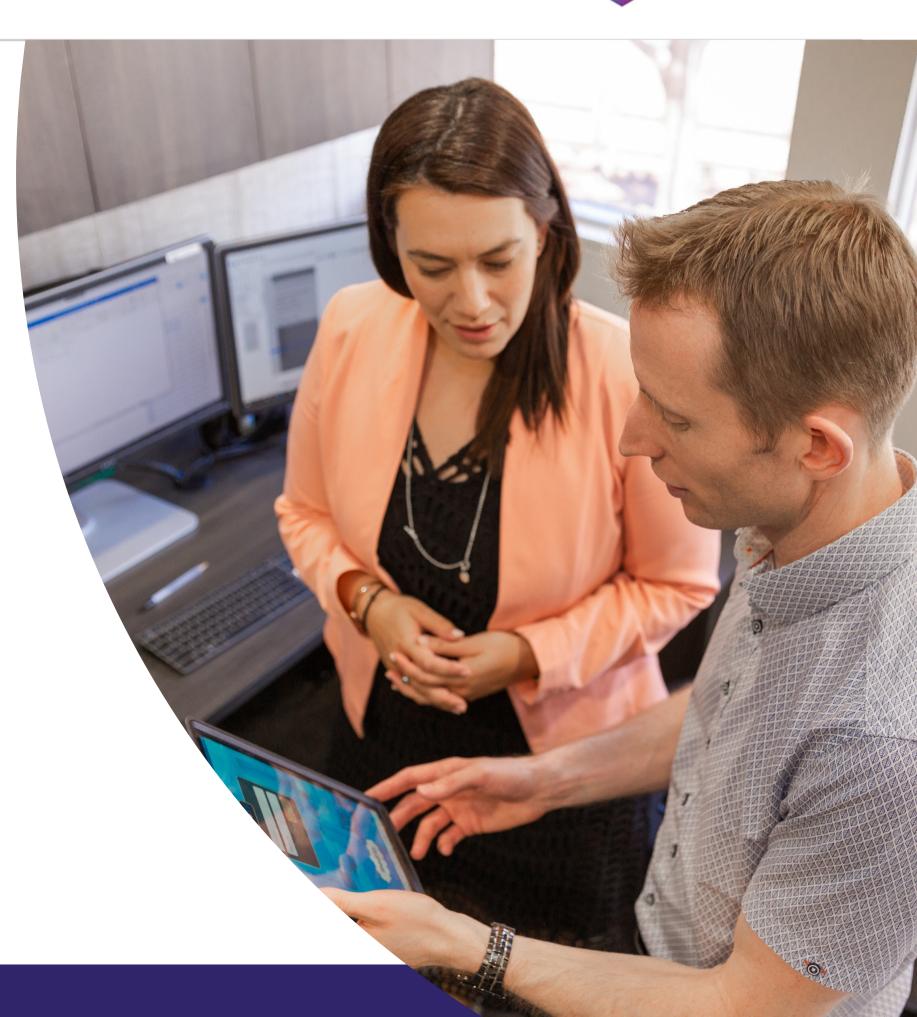


Emerald develops services and technologies.

To improve health and generate evidence.

Where it matters most.

In the real world.



#### Real-World Evidence (RWE)



April 21, 2020

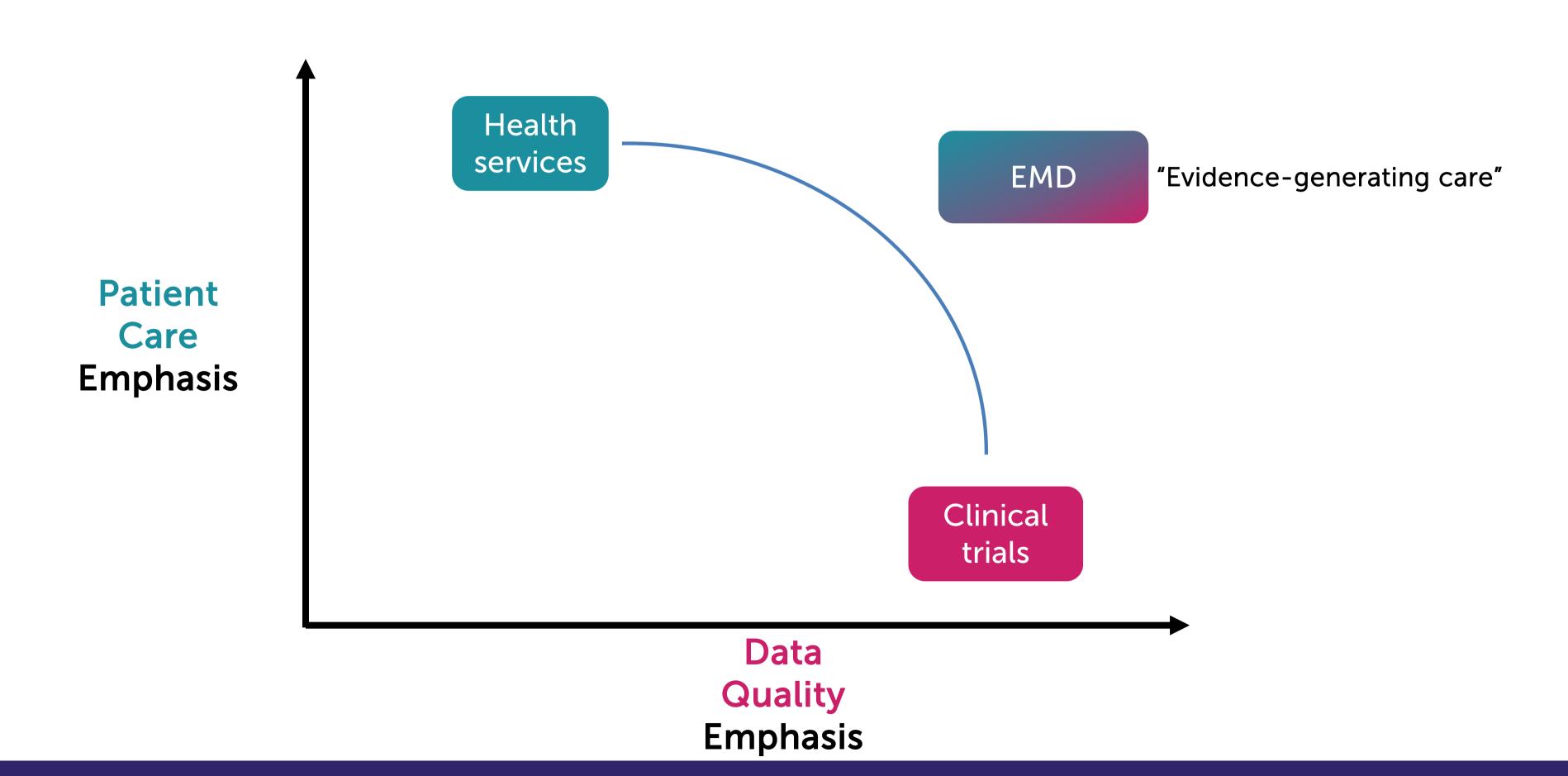
# The surge in FDA approvals supported by RWE:

The U.S. Food and Drug Administration (FDA) is approving more drugs with the help of real-world evidence (RWE) than ever before. Between 1995 and 1997, 19.4 percent of the FDA's approvals came from having one adequate and well-controlled study plus confirmatory evidence, such as RWE. Between 2015 and 2017, that figure jumped to 47.2 percent.

RWE is becoming more important to regulators and treatment developers

# Deliver great care and insights

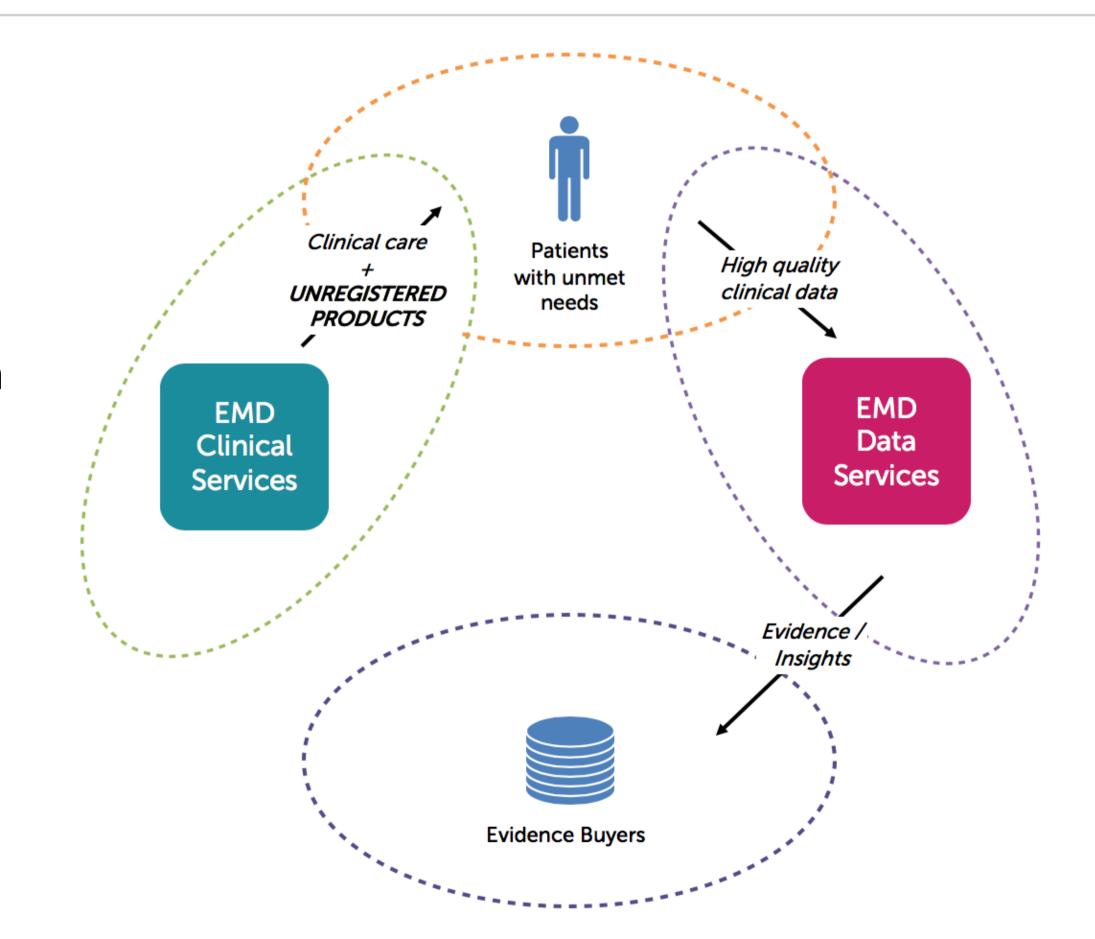




#### Emerald's business model



Revenues from care delivery



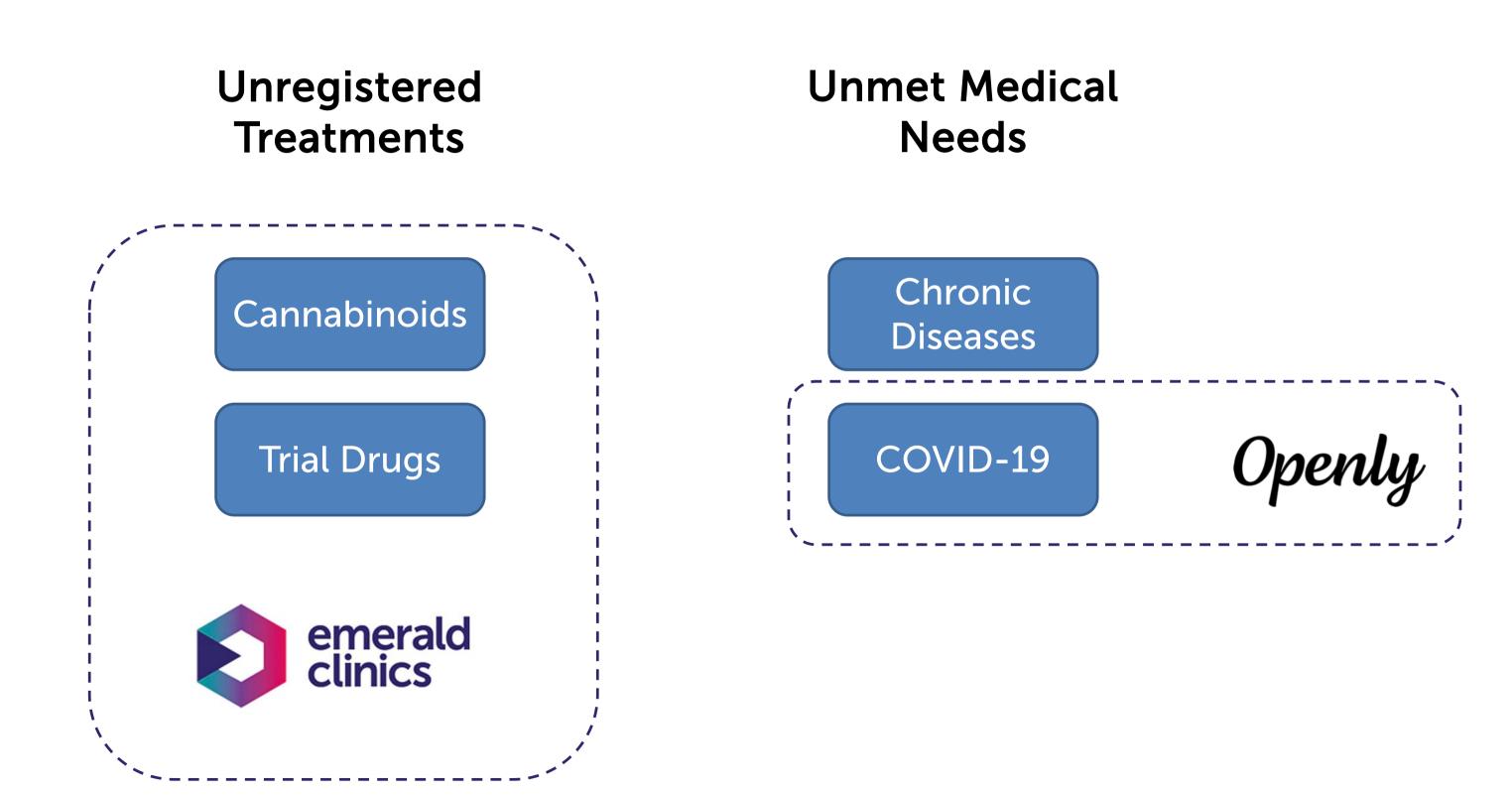
Revenues from insight delivery





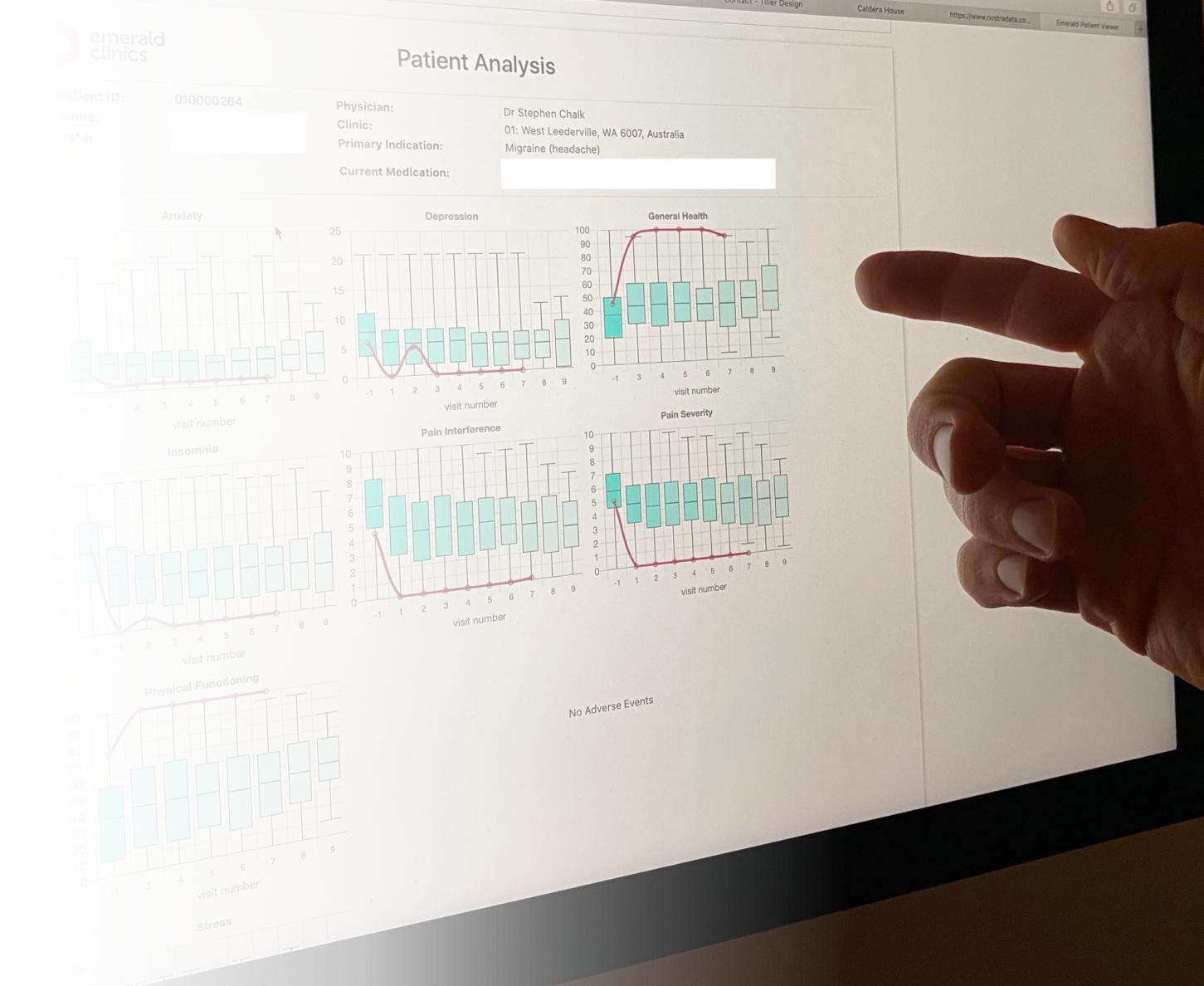
## High-quality RWE, where it's needed most





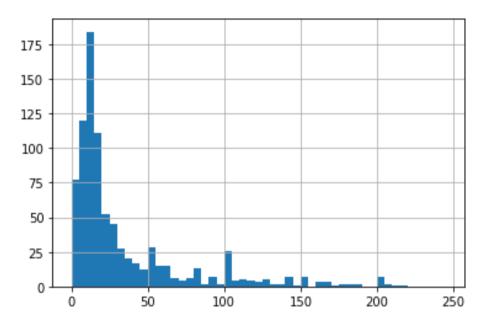


Real-world evidence for cannabinoid-based medicines (CBMs)

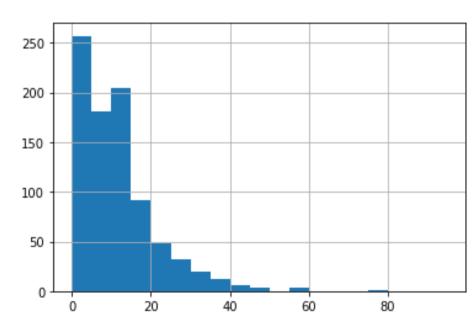


#### Emerald's cannabinoid medicine RWE asset

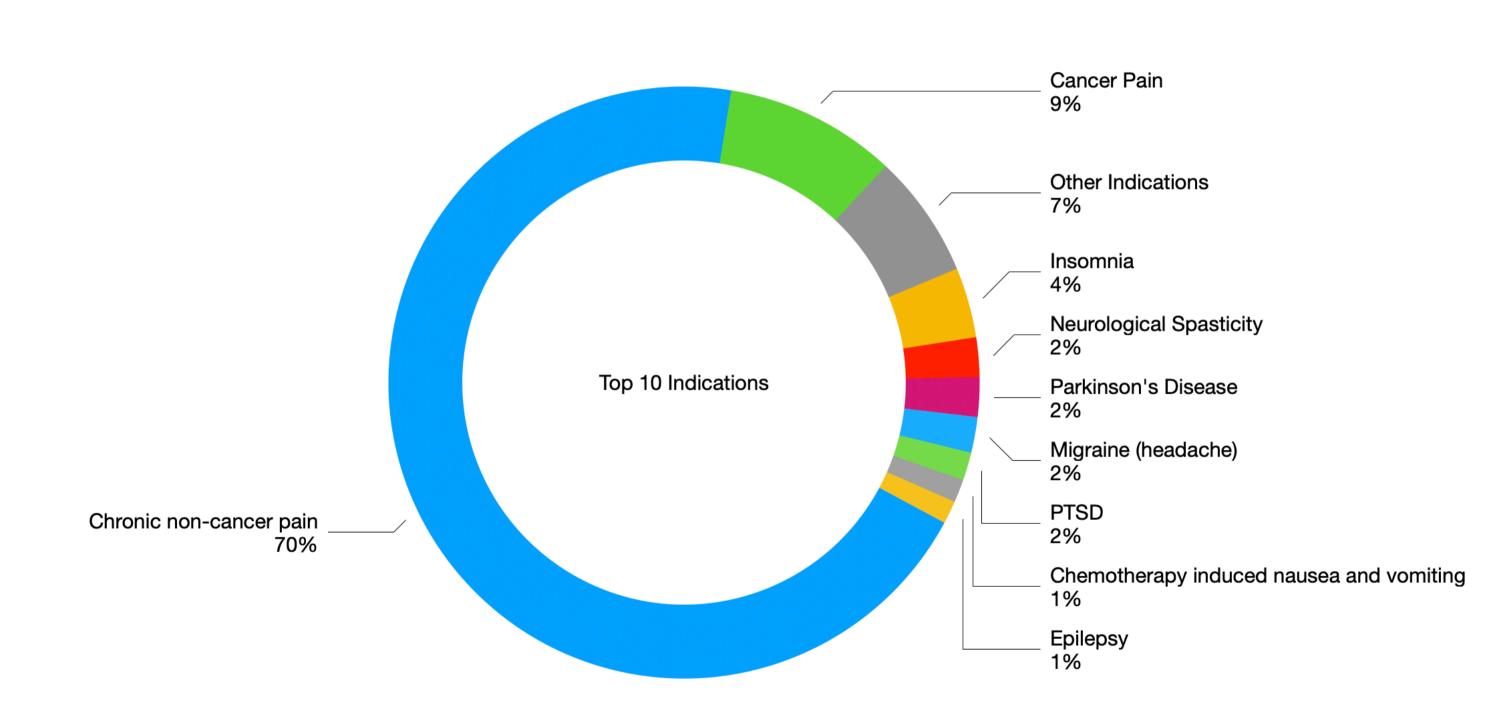




Histogram of average CBD dose/day/patient



Histogram of average THC dose/day/patient



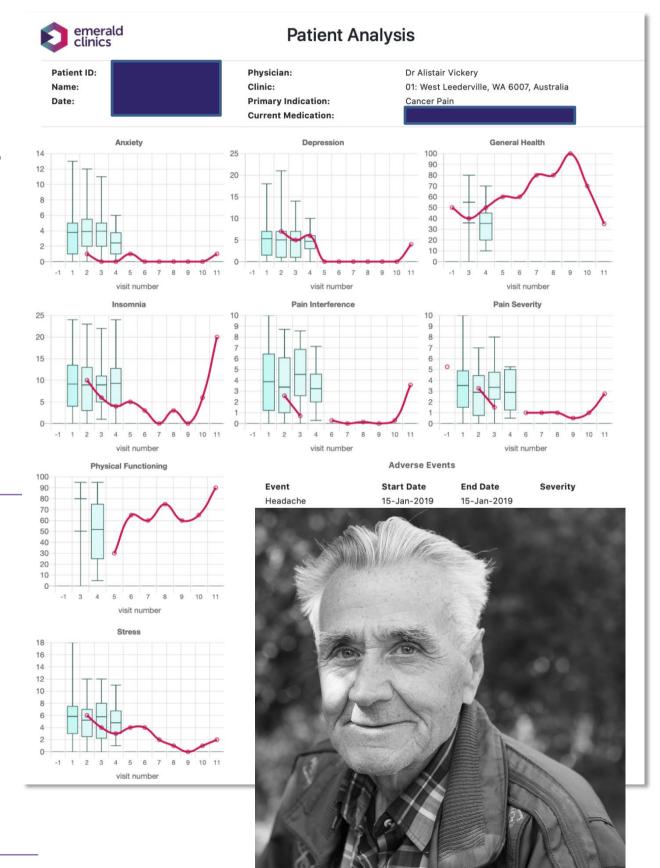
# Case Study - Bob



- Vietnam Veteran injured by large tree fall in 1969 causing multiple fractures
- Long-standing chronic back pain, developed peripheral neuropathy thought to be due to exposure to Agent Orange with history of PTSD
- Under care of pain specialists using oxycontin, buprenorphine, pregabalin,
   gabapentin, PEA, duloxetine –with little relief and/or poorly tolerated side effects.
- Now: Stable dose of 15mg 1:1 THC/CBD oil, ceased all opiates, pregabalin and

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Scores	Initial assessment	Visit 5
BPI Pain severity score	5.0	1.75
BPI Pain interference score	5.29	0.86
Visual analogue scale	5.0	1.0
Insomnia severity score	12.0	1.0
DASS 42 Depression	14	4
DASS 42 Anxiety	16	2
DASS 42 Stress	16	12



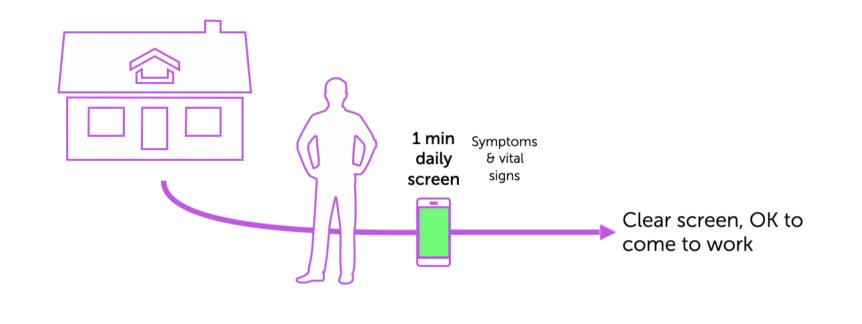
# Openly

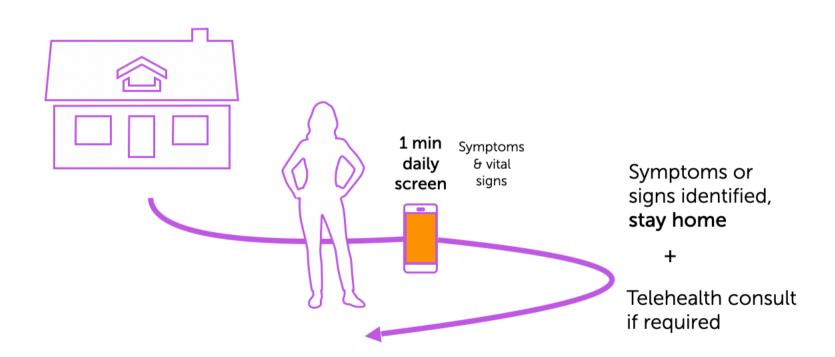
A wellness screening service powered by your smartphone and supervised by clinicians



# Workforce screening approach\*







- Screen and intervene <u>before</u> interaction with others = supports breaking transmission chain
- Symptoms and vital signs = supports improved screening
- App-based = promotes high engagement
- Clinical team manages program = preserves privacy
- No health data shared with employer
- Evidence based
- Telehealth available if required
- Can liaise with preferred healthcare providers

# Temperature checks are emerging as problematic





- Prevalence of fever as a symptom of COVID-19 is highly variable (studies suggest 25-65% of confirmed cases don't have fever)<sup>1</sup>
- + Fever is not constant it varies throughout the day and can be masked with medications
- Non-contact thermometers measure skin temperature, not core temperature and are highly variable (sensitivity in studies ranges from 4-89%)<sup>2</sup>
- Studies on temperature screening for SARS and influenza show non-contact thermometers consistently miss febrile passengers and generate a high rate of false positives<sup>3</sup>

<sup>1.</sup> Presenting Characteristics, Comorbidities, and Outcomes Among 5700 Patients Hospitalized With COVID-19 in the New York City Area JAMA. 2020;323(20):2052-2059. doi:10.1001/jama.2020.6775 Published online April 22, 2020. Corrected on April 24, 2020; Lechien, Jerome R. Clinical and Epidemiological Characteristics of 1,420 European Patients with mild-to-moderate Coronavirus Disease 2019. Journal of internal medicine (0954-6820) [Internet] 2020 April. [cited 2020 May 11]; DOI: https://doi.org/10.1111/joim.13089;

<sup>2.</sup> Bitar, D., A. Goubar, and J.C. Desenclos, International travels and fever screening during epidemics: a literature review on the effectiveness and potential use of non-contact infrared thermometers. Eurosurveillance, 2009. 14(6): p. 19115. doi:https://doi.org/10.2807/ese.14.06.19115-en

<sup>3.</sup> Nishiura, H. and K. Kamiya, Fever screening during the influenza (H1N1-2009) pandemic at Narita International Airport, Japan. BMC infectious diseases, 2011. 11(1): p. 111.

# Multi-modal screening (symptoms and vitals) benefits





- + Cough, loss of taste and smell and shortness of breath are emerging as predictive symptoms of COVID-19 than temperature<sup>1</sup>
- Monitoring respiratory rate has been shown to detect COVID-19 illness prior to the onset of symptoms and also to correctly identify symptomatic cases<sup>2</sup>
- + Combining vital signs monitoring with symptom questionnaires has previously been demonstrated to be very sensitive for influenza detection <sup>3</sup>
- + Daily health monitoring allows higher risk people to be identified and managed avoiding the need to regularly test the entire population

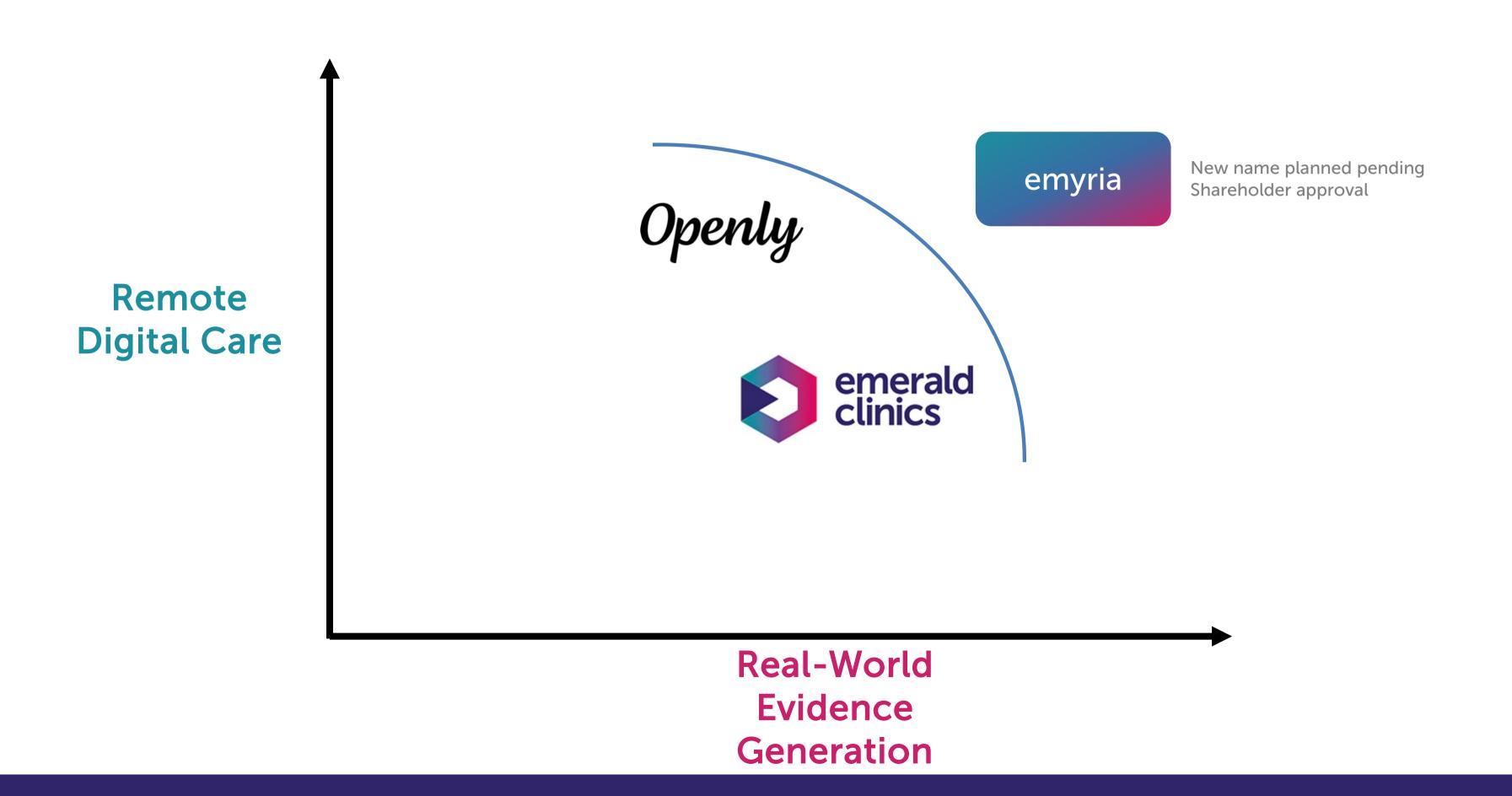
<sup>1.</sup> Menni C et al. Loss of smell and taste in combination with other symptoms is a strong predictor of COVID-19 infection. MEdRxiv; [Internet]. 2020 Mar [cited 2020 April 01]; MEDRXIV/2020/048421(preprint)

<sup>2.</sup> Miller et al Analyzing changes in respiratory rate to predict the risk of COVID-19 infection MEdRxiv doi: https://doi.org/10.1101/2020.06.18.20131417

<sup>3.</sup> Sun, G., et al., A portable infection screening system designed for onboard entry screening based on multi-parameter vital signs. International Journal of E-Health & Medical Communications, 2013. 4(3): p. 20-35.

### Evidence-generating remote care is the future





# Experienced board with medical focus



Key Person	Role	Previous Experience
Dr Stewart Washe	Non-Executive Chairman / Founder	30 years of CEO and Board experience in medical and agrifood biotech companies. Chairman of Orthocell Ltd (ASX:OCC), regenerative medicine company, Founding Chairman and current Director of Cynata Therapeutics Ltd (ASX:CYP) stem cell therapies. Founder of AusCann Ltd (ASX:AC8), medical cannabis manufacturing, Co-founder of Zelda Therapeutics Ltd (ASX:ZLD) medical cannabis clinical studies and research. Stewart has held a number of Board positions in the past, including Chairman of Hatchtech that was sold in 2015 for A\$279m and was a Director of iCeutica Inc. that was sold to a US Pharma. He was also a Senator with Murdoch University and was a Director of AusBiotech Ltd
Dr Michael Winlo	Chief Executive Officer / Managing Director	Former CEO of rapid growth clinical trial organisation, Linear Clinical Research, serving biotech start-ups through to multinational pharmaceutical companies across the USA, Europe, Japan and China. Previously, Health Lead at Palantir (a Peter Thiel founded company based in Silicon Valley) working on complex data integration and analysis for Fortune 50 companies; as well as the US and UK Governments.  Holds multiple patents in data analysis as well as a Bachelor of Medicine and Bachelor of Surgery (MBBS) and an MBA from Stanford University Graduate School of Business. Member of AICD and has completed director's course.
Dr Alistair Vickery	Chief Medical Officer / Executive Director	Specialist general practitioner with >30 years' experience in general practice. Associate Professor of Primary Health Care at the University of Western Australia and Deputy Chair of the Postgraduate Medical Council of WA and the clinical lead of the research group CHASM (The Collaborative for Health Care Analysis and Statistical Modelling) - providing high-level analysis and statistical modelling to inform clinical service evaluation and planning for WA Health. Chair of Black Swan Health, one of the largest primary health care service providers in WA and Fellow of the Australasian College of Health Service Management and AICD graduate.
Matt Callahan	Non-Executive Director / Founder	Founder of Botanix Pharmaceuticals (ASX:BOT), iCeutica Inc. and Orthocell (ASX:OCC). Successfully developed 4 products through FDA approval. More than 20 years' legal, intellectual property and investment management experience. Former investment director for 2 venture capital firms in life sciences and was GM and general counsel with technology and licensing company Ipernica Limited, now Nearmap Limited (ASX:NEA), where he was responsible for licensing programs that generated more than \$120M in revenue.
Professor Sir John Tooke	Independent Non-Executive Director	Senior Independent Director, BUPA Chile, Chair of Collaboration for the Advancement of Sustainable Medical Innovation (CASMI), UCL. Sir Tooke was Head of the School of Life and Medical Sciences at University College London (UCL) as Vice Provost (Health) and Academic Director of UCL Partners. Immediate past President of the Academy of Medical Sciences in the UK where he Chaired a report titled Enhancing the use of scientific evidence to judge the potential benefits and harms of medicine. Previous member of Google DeepMind Health's Independent Review Board. Leading advisor to the UK Government regarding health policy and was knighted in the United Kingdom in the 2007 New Year Honours for Services to Medicine.



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