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Company Announcements Office  
Australian Securities Exchange  
Exchange Centre  
20 Bridge Street  
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## 2020 RESEARCH PROGRAM UPDATE

- **Strong progress made in NanoCelle® development**
- **NRGBiotic™/Depression study results expected in Q1 CY2021**
- **MultiBiotic™/Chemotherapy study results expected in Q1 CY2021**

Medlab Clinical (ASX:MDC) a company with a portfolio of novel drug candidates enhanced by its drug delivery platform and used for the treatment of chronic pain and disease, is pleased to provide an update on clinical and pre-clinical programs currently underway.

In addition to completing a Phase I/II study and initiating the 12-month observational study for its lead drug candidate NanaBis™, Medlab has advanced additional research to support the expanded use of NRGBiotic™ and MultiBiotic™, as well as its novel NanoCelle® drug delivery platform.

**NRGBiotic™ results readout expected in Q1 CY2021:** NRGBiotic™ is a multi-patented probiotic that is currently available in Australian pharmacies. The TGA-approved study was to investigate NRGBiotic™ as an adjuvant (used with) to commonly prescribed anti-depressant medications (SSRI or SNRI) for patients diagnosed with major depression that were getting little or no relief from standard medical treatment.

The trial was completed at the end of March 2020, with 120 out of 150 patients treated. The independent pathology covering multiple timepoints across 120 patients, which is being carried out by Queensland University of Technology and Queensland Medical Research Institute (QMRI), was delayed due to COVID-19 restrictions. The process of the microbiome analysis has now re-commenced and a full read out of results is expected in the first quarter of 2021. Medlab received \$100,000 in government funding for this study.

**MultiBiotic™ safety and efficacy study results also due in Q1 CY2021:** MultiBiotic™ is a multi-species probiotic sold in Australian pharmacies to support the natural balance of bacteria and maintain optimal gastrointestinal care and immune function. A pilot safety tolerability and efficacy study with 30 patients was completed earlier in the year to investigate the use of this formulation in preventing the development of intestinal ulcers and immune function deficits in patients undergoing chemotherapy and/or radiotherapy for the management of cancer. Analysis of the samples has been delayed to COVID-19, and is now expected to be completed in Q1 2021.

**NanoCelle® - application into smart textiles, successful proof of concept:** Medlab has now successfully demonstrated that NanoCelle® can adsorb a nanoparticle compound onto a textile. The compound, which could have an intended action such as wound dressing, medication release or cooling, remains inert until a “trigger” is introduced. This trigger causes the effective release of the compound with an intended action. Patents have been filed for this mode of action, building on the first Australian patent for “Transmucosal and transdermal delivery systems” granted to NanoCelle® in September 2020.

In Medlab’s multiple experiments, MDC scientists effectively adsorbed ampicillin, a well-known and widely used antibiotic, onto a medical bandage made of cotton fibre. The experiments showed that the gauze

was coated with the antibiotic ampicillin and demonstrated antibacterial growth inhibition characteristics when placed on a surface with profuse bacterial growth.

This technology offers strong potential in functional textiles, with a broad spectrum of applications for military textiles, consumer activewear and first responders. Uses include medication bandages and smart clothing designed to protect the wearer, improve performance or extend lifesaving properties.

**NanoCelle® - progress made on NanoCelle® large molecule program:** Development continues on Medlab's large molecule program, which is investigating employing NanoCelle® technology to deliver larger protein-based molecules via buccal administration. Large molecules, or biologics, are protein-based molecules and include immune-enhancing and molecular medicines. Medlab's large molecule program aims to demonstrate that NanoCelle® can enable oral delivery of large molecule medicines such as vaccines or immunotherapies, which is currently not possible for large molecules today.

**NanoCelle® small molecule program, successful laboratory testing in Mesothelioma (cancer):** Laboratory investigations with primary cancer cells have also been completed in 2020. These investigations have demonstrated that specific metabolites can positively influence chemotherapeutic drugs such as oxaliplatin, enhancing cancer cell-killing potential.

In 2021, the Company expects development of these metabolites to progress to NanoCelle® (submicron particle) formulations, which will then progress to proof of principle clinical studies.

Professor Luis Vitetta, Director of Medical Research at Medlab Clinical said, "Alongside advancing our lead drug candidate NanaBis™ we have advanced our research across several programs this year, all of which contribute to building value in our diverse portfolio and reinforce our strong standing as a scientifically-led company.

"The development of our NanoCelle® drug delivery platform is truly exciting and shows the potential of this asset. This research is creating a pipeline of new technologies and drug candidates covering some 20 small molecules, three large molecules and three unique textile applications, which we can develop ourselves or take forward with partners."

Dr Sean Hall, Managing Director of Medlab Clinical said, "The completion of two clinical studies for existing nutraceutical products during the pandemic was a solid achievement in itself. We look forward to receiving results in early 2021, and expect that with this is additional evidence in hand we will be to drive increased uptake of these two products, which are already being sold in pharmacies, with additional medical claims.

"We are very excited as the coming year should demonstrate several significant catalysts for Medlab, inclusive of:

1. Progression of NanaBis™ trial work and entry into US and UK territories
2. Progression of NanoCBD™ into AU trial work
3. Progression of our NRGBiotic™/Depression work
4. Commercialisation of NanoCelle® beyond the existing AU market
5. Launch of our US NanoCelle® Textile strategy
6. Progression of NanoCelle® research assets to attract partnering.

"In all, we have invested in building a solid, evidence-based foundation for populations with significant unmet needs, whilst the COVID-19 impact caused some delays and removed the ability to travel, global business development has continued. In October this year we brought on a New York based business development consultancy team to help us partner NanaBis™, and whilst early, this appears fruitful; moving forward we are expecting to widen our US and EU presence to increase partnering opportunities across the entire MDC portfolio."

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Authorisation & Additional information

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

**About Medlab – [www.medlab.co](http://www.medlab.co)**

Medlab Clinical is an Australian based medical life science company, developing therapeutic pathways for diagnosed chronic diseases. It is advanced in developing therapies for pain management, depression and obesity as well as earning revenue from sale of nutritional products in Australia and the United States. In pain management Medlab is developing cannabis-based medicines. The Medlab developed nano-particle medicine delivery system, NanoCelle™ is being applied to its medicines, nutritional products and off-patent drugs like statins, Medlab has a growing patent portfolio.

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