Updated investor presentation

Philadelphia PA and Sydney Australia, 5 December 2018: Medical dermatology company Botanix Pharmaceuticals (“Botanix” or “the Company”) is pleased to release an updated investor presentation, to be presented to investors, strategic partners and brokers in Canada this week. This presentation provides an overview of Botanix’s key investment highlights; Permetrex™ delivery technology; acne, atopic dermatitis, psoriasis and antimicrobial programs; and other key upcoming activities.

For more information, please contact:

<table>
<thead>
<tr>
<th>General enquiries</th>
<th>Investor enquiries</th>
<th>Media enquiries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matt Callahan</td>
<td>Joel Seah</td>
<td>Julia Maguire</td>
</tr>
<tr>
<td>Botanix Pharmaceuticals</td>
<td>Vesparum Capital</td>
<td>The Capital Network</td>
</tr>
<tr>
<td>+1 215 767 4184</td>
<td>P: +61 3 8582 4800</td>
<td>P: +61 419 815 386</td>
</tr>
<tr>
<td><a href="mailto:mcallahan@botanixpharma.com">mcallahan@botanixpharma.com</a></td>
<td><a href="mailto:botanixpharma@vesparum.com">botanixpharma@vesparum.com</a></td>
<td><a href="mailto:julia@thecapitalnetwork.com.au">julia@thecapitalnetwork.com.au</a></td>
</tr>
</tbody>
</table>

About Botanix Pharmaceuticals

Botanix Pharmaceuticals Limited (ASX:BOT) is a clinical stage medical dermatology company based in Perth, Australia and Philadelphia, PA. The Company’s focus is the development of safe and effective topical treatments for acne, psoriasis, atopic dermatitis and other skin conditions. The active ingredient contained in Botanix products is a synthetic form of a widely studied natural compound. Treatment targets include inflammation, deterioration of the of the skin barrier, skin cell proliferation, pruritus (itch), excess sebum production and bacterial infection.

Botanix has an exclusive license to use a proprietary drug delivery system (Permetrex™) for direct skin delivery of active pharmaceuticals in all skin diseases. Botanix is working with multiple parties to test the application of Permetrex™ on both a fee-for-service and traditional license basis.

Botanix pursues a rapid clinical development strategy aimed at accelerating product commercialisation. The patient treatment duration of clinical studies is generally completed within a 4 to 12 week timeframe.

The Company completed its first acne patient studies with BTX 1503 in January 2018 and has commenced a Phase 2 clinical trial in June 2018 with completion expected in mid-2019. The Phase 1b BTX 1204 atopic dermatitis patient study concluded in June 2018 and preparation is underway for a Phase 2 clinical trial. The Phase 1b BTX 1308 psoriasis patient study commenced in September 2018.

For more information on Botanix, please visit [www.botanixpharma.com](http://www.botanixpharma.com)
Botanix Overview

Canada
December 2018
Key investment highlights

Botanix is a global dermatology company delivering synthetic cannabinoids topically for the treatment of skin diseases

**Dermatology focused**

Advanced clinical programs targeting multi-billion dollar prescription markets for acne, atopic dermatitis and psoriasis

**De-risked drug active**

Products use a synthetic form of cannabidiol with a proven safety profile (Epidiolex® recently approved by FDA) - increases the probability of success

**Clinical stage**

Successful clinical data from acne and atopic dermatitis patient studies shows industry leading performance, after only 4 weeks of treatment

**Novel approach**

Novel skin delivery technology, Permetrex™ - enhances delivery of cannabidiol into the skin compared to traditional formulation approaches

**Experienced team**

Predominantly US based leadership team with 20+ FDA approvals between them and extensive dermatology industry experience
Permetrex™ skin delivery technology

Proprietary Permetrex™ technology delivers high doses of drug into the layers of the skin without use of permeation enhancers, preservatives, or the use of irritating alcohol/petrolatum additives.

Botanix holds the exclusive rights to utilise Permetrex™ for all drugs that treat skin diseases.
Permetrex™ technology enables superior delivery of cannabidiol

Permetrex™ delivers more much more cannabidiol (CBD) into the target layers of the skin, even though the CBD concentration of the BTX 1503 formulation is only 25% to 50% the concentration of alternative formulations.

Cannabidiol (CBD) percentage delivery (%)\(^1\)

![Diagram showing percentage of CBD delivery in epidermis and dermis](image)

1. Botanix Pharmaceuticals data on file
Clinical programs with near term milestones

Phase 2 acne and atopic dermatitis programs supported by exciting development pipeline, with Permetrex™ collaborations to augment revenue and news flow

<table>
<thead>
<tr>
<th>Product candidate</th>
<th>Indication</th>
<th>Pre-clin</th>
<th>Ph 1</th>
<th>Ph 1b</th>
<th>Ph 2</th>
<th>Next milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Synthetic cannabidiol</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>BTX 1503</td>
<td>Moderate to severe acne</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phase 2 clinical study underway</td>
</tr>
<tr>
<td>BTX 1204</td>
<td>Atopic dermatitis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phase 2 clinical study pending</td>
</tr>
<tr>
<td>BTX 1308</td>
<td>Psoriasis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phase 1b patient study underway</td>
</tr>
<tr>
<td>BTX 1801</td>
<td>Antimicrobial</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Phase 1b patient study</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Permetrex™ programs</th>
<th>Internal/external</th>
<th>Various</th>
<th>Collaborations</th>
<th>Ongoing collaboration</th>
<th>Service fees and potential licenses</th>
</tr>
</thead>
</table>
Development Pipeline
BTX 1503: acne
BTX 1204: atopic dermatitis
BTX 1308: psoriasis
BTX 1801: antimicrobial
BTX 1503: acne – mechanism of action for acne

BTX 1503 is a safe and well tolerated topical treatment that addresses all 3 key pathologies of acne

CBD addresses multiple pathologies that contribute to acne in a CB1/CB2 independent manner

- **Have anti-inflammatory effects on human sebocytes and to suppress sebocyte proliferation**

- **Have potent anti-microbial activity against gram-positive bacteria**

- **Inhibit human keratinocyte proliferation**, through a non CB1/CB2 mechanism

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**BTX 1503: acne** – outperforms leading acne products

4 week study data shows a marked reduction in inflammatory lesions, greater than any other FDA approved topical acne product.\(^1\)

### Lesion count reduction (%)

<table>
<thead>
<tr>
<th>Product</th>
<th>Owner</th>
<th>Lesion count reduction (%)</th>
<th>2016 annual revenue(^3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epiduo(^a)</td>
<td>Galderma</td>
<td>~42%</td>
<td>US$494m</td>
</tr>
<tr>
<td>Aczone(^b)</td>
<td>Allergan</td>
<td>~38%</td>
<td>US$456m</td>
</tr>
<tr>
<td>BTX 1503</td>
<td>Botanix</td>
<td>~47%</td>
<td>-</td>
</tr>
</tbody>
</table>

- **Epiduo\(^a\)**: Combination of two drugs – benzoyl peroxide and adapalene
- **Aczone\(^b\)**: Few side effects
  - Studies showed large placebo / vehicle effect – i.e. at 12 weeks Aczone reduced inflammatory lesions by 54% while vehicle achieved 48% reduction

\(^1\) Botanix Pharmaceuticals data on file. \(^2\) Lesion count reduction based on average inflammatory lesion reduction at 4 weeks. \(^3\) Based on 2016 annual revenue in the US.
**BTX 1503: acne – Phase 2 study overview**

12-week randomised, double-blind, vehicle controlled study to evaluate the safety and efficacy of BTX 1503 in patients with moderate to severe acne

**Design**
- 5 dose groups: ~360 subjects
  - High Dose twice a day: ~90 subjects
  - High Dose once a day: ~90 subjects
  - Low Dose once a day: ~90 subjects
  - Vehicle/Control: ~90 subjects
- ~28 US and Australian dermatology sites
- Children (>12 years) and adults
- Moderate to severe acne patients
- Treatment Period 12 weeks

**Endpoints**
- Primary endpoints:
  - absolute change from Baseline to Week 12 in inflammatory lesions
- Secondary endpoints:
  - absolute change from Baseline to Week 12 in non-inflammatory lesions
  - % change from Baseline to Week 12 in inflammatory and non-inflammatory lesions
  - proportion of patients with at least 2 grade reduction from Baseline IGA at week 12
- Safety
  - adverse events and local tolerability

Commenced July 2018 (~12 months duration) - fully funded
**BTX 1503: acne – next steps**

Botanix is pursuing a rapid clinical development strategy to accelerate product commercialisation and timing to first revenues

- Phase 2 clinical study started early 3Q CY2018 and will take approximately 12 months to complete
- Study designed to deliver data that allows licensing and other corporate opportunities

**BTX 1503 indicative clinical timeline (CY)**

<table>
<thead>
<tr>
<th>2Q 2019</th>
<th>3Q 2019</th>
<th>4Q 2019</th>
<th>1Q 2019</th>
<th>2Q 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>2Q 2018</td>
<td>File IND for FDA regulated Phase 2 trial</td>
<td>First patient enrolled in Phase 2 trial</td>
<td>US and Australian sites all activated</td>
<td>Patient enrolment complete</td>
</tr>
</tbody>
</table>

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**Milestones**

- 2Q 2019
- 3Q 2019
- 4Q 2019
- 1Q 2019
- 2Q 2019

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**Acne**
Atopic dermatitis (and psoriasis) are both T-cell mediated inflammatory diseases of the skin.

1. During the “acute phase”, dendritic cells cause excessive Th2 and Th17 cell activation.
2. During the “chronic phase”, dendritic cells recruit Th1cell populations that release Interferon-γ.

**CBD inhibits Th17 responses (IL17), anti-inflammatory effect** (in vitro model of IL-17A-induced mucosal inflammation using human cells)\(^1,2\)

**CBD attenuates Th2 responses (IL4/IL13), anti-inflammatory effect** (in mouse models of AD)\(^3,4\)

**CBD inhibits Interferon-γ production** which prevents deterioration of skin barrier function (In activated lymphocyte cultures)\(^1\) (mouse model of autoimmune myocarditis)\(^5\)

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**BTX 1204: atopic dermatitis – Phase 1b study design**

Successful 4-week treatment period, double-blind, vehicle controlled patient study concluded in late May 2018

<table>
<thead>
<tr>
<th>Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>• ~36 subjects 18 years and older (24 active / 12 vehicle)</td>
</tr>
<tr>
<td>• 4 Australian dermatology sites</td>
</tr>
<tr>
<td>• BTX 1204 solution BID applied topically</td>
</tr>
<tr>
<td>• At least 1 lesion (25 to 200 cm²), on the trunk upper or lower extremities</td>
</tr>
<tr>
<td>• Signs of AD score ≥6 and ≤12</td>
</tr>
<tr>
<td>• Investigator’s Static Global Assessment (ISGA) of mild (2) or moderate (3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Endpoints</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Primary endpoints:</td>
</tr>
<tr>
<td>– safety - AEs, labs, local tolerability and signs of atopic dermatitis</td>
</tr>
<tr>
<td>• Exploratory endpoints:</td>
</tr>
<tr>
<td>– ISGA</td>
</tr>
<tr>
<td>– target lesion size</td>
</tr>
</tbody>
</table>

Study successfully completed end 2Q CY2018
BTX 1204: atopic dermatitis – Phase 1b study results

BTX 1204 was twice as effective as vehicle (with efficacy still increasing) and displayed a substantial improvement in the key signs of AD \(^1\)

### Treatment success (%)^2

<table>
<thead>
<tr>
<th>Time</th>
<th>BTX 1204</th>
<th>Vehicle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 8</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Day 15</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Day 29</td>
<td>30%</td>
<td>20%</td>
</tr>
</tbody>
</table>

### Key takeaways

**Efficacy still increasing at 4 week timepoint**
- Achieved treatment success similar to many competitive topical products at the end of their peak treatment period
- Data suggests longer treatment period for BTX 1204 possible for increased efficacy, potentially to exceed industry performance

**Clear separation from vehicle (placebo)**
- Despite being a small study, BTX 1204 shows superiority over vehicle, starting at early time points
- First vehicle-controlled study for Botanix, which also supports potential for other pipeline products

**Excellent safety profile**
- Safety and tolerability established with no burning, stinging or application site adverse events
- BTX 1204 profile allows extended dosing which remains a key challenge with most available therapies

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1. Botanix data on file. Results indicated substantial reduction in key signs of AD, providing confidence that unmet needs in AD can be addressed

2. Treatment success defined as a greater than, or equal to, a 4 point improvement in the signs and symptoms of AD
**BTX 1204: atopic dermatitis – Phase 2 study design**

12 week randomised, double-blind, vehicle controlled study to evaluate the safety and efficacy of BTX 1204 in patients with moderate AD

### Design

- 2 dose groups: ~200 subjects
  - BTX 1204: ~100 subjects
  - Vehicle/Control: ~100 subjects
- ~25 US and Australian dermatology sites
- Children (> 12 years) and adults
- Moderate AD patients
- Treatment period of 12 weeks

### Endpoints

- **Primary endpoint:**
  - proportion of subjects with ISGA success defined as an ISGA score of “Clear” (0) or “Almost Clear” (1) with at least a 2 grade improvement from Baseline at Week 12
- **Secondary endpoints:**
  - change from Baseline in the Signs of AD
  - % body surface area (BSA) affected by AD
  - time to achieve IGA success
- **Safety**
  - adverse events and local tolerability

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**First patients in 4Q CY2018 - fully funded**
BTX 1204: atopic dermatitis – next steps

BTX 1204 complements existing products in development, allowing faster development and transition times through key regulators (FDA and DEA)

- development program leverages existing data from BTX 1503 acne studies, lowering regulatory and safety hurdles
- common usage of DEA licensed dermatology clinics in US from BTX 1503 acne Phase 2 study, reduces cost and start-up timing

**BTX 1204 indicative clinical timeline (CY)**

| Phase 1b atopic dermatitis patient data | 3Q 2018 |
| Pre-IND meeting for FDA regulated Phase 2 trial | 4Q 2018 |
| Phase 2 first patients enrolled | 1Q 2019 |
| Patient enrolment complete | 2Q 2019 |

Milestones

Study duration

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BTX 1308: psoriasis – next steps

Botanix has commenced a Phase 1b study to test BTX 1308 against vehicle and a marketed psoriasis drug in patients

- Novel multi-drug comparison study format in the same patient, provides high quality data on BTX 1308 efficacy
- Biopsy data will elucidate M OA and (for the first time) confirm anti-inflammatory and immune modulation activity
- Study de-risks psoriasis indication, as well as provides scientific support to mechanisms for acne and atopic dermatitis

**BTX 1308 indicative development timeline (CY)**

- **3Q 2018**: Ethics approvals for Phase 1b study
- **4Q 2018**: Phase 1b patient study
- **1Q 2019**: Data announcement
- **2Q 2019**: Milestones

Bioskin GmbH psoriasis plaque test, including change in infiltrate thickness as measured by sonography
**BTX 1801: antimicrobial – results summary**

BTX 1801 data demonstrates potential for a new antimicrobial to treat unmet needs in skin infections together with additional benefits seen in prior Botanix studies (e.g. reduction in inflammation)

### Summary of data

**Gram-positive bactericidal effect**
**New mechanism of action**
**Active against MRSA**
**Topical application suited for skin infections**
**Benign side effect profile based on previous clinical studies**
**Ability to use long term**
**Anti-inflammatory and skin barrier improvement properties**
**Suitable for treatment of children (due to low toxicity)**
**Prevent early use of IV antibiotics (significant side effects)**

The study results demonstrate that the delivery of cannabidiol with Permetrex™ can reduce the concentration of the active drug required to achieve the highest levels of bacterial killing.
Experienced team

Global team with proven experience in dermatology and a track record of securing drug approvals

Mr Matthew Callahan
Founder and Board Executive Director
- Developed 3 products to date that have received FDA approval, 1 pending approval
- Ex-investment director of 2 venture capital firms in life sciences
- Serial entrepreneur with extensive product development and launch experience

Dr Michael Thurn
Head Australian Operations
- Extensive start up life sciences experience across a range of technology platforms
- Previous MD of Spinifex Pharmaceutical, which sold to Novartis for A$700m

Dr Stephane Levy
Chief Medical Officer
- Ex-CMO of Almirall US operations and VP Sanofi and Novartis
- Broad commercial and clinical development experience

Ms Jillian Chapas Reed
Snr Director Clinical Operations
- 20 years clinical trial experience across dermatology and immunology
- Held senior director roles with CRO’s companies and hospital sponsors

Dr Judith Plon
VP Regulatory Affairs
- 30 years regulatory experience with multiple FDA approved dermatology products
- Ex-AVP Global Regulatory Affairs at Sanofi

Dr Bill Bosch
Executive Director
- 6 FDA approved products and inventor of the iCeutica SoluM atrix Technology
- Founder of NanoSystems and co-inventor of drug delivery technology NanoCrystal

Mr Matthew Callahan
Corporate + IP

Dr Michael Thurn
Operations + Regulatory

Dr Stephane Levy
Medical + Clinical

Ms Jillian Chapas Reed
Clinical

Dr Judith Plon
Regulatory

Dr Bill Bosch
Manufacturing + IP
Key catalysts

Significant clinical and operational milestones across multiple programs expected over the next 12 months

### Indicative activities and milestones

<table>
<thead>
<tr>
<th>Program</th>
<th>Phase</th>
<th>Milestones</th>
</tr>
</thead>
<tbody>
<tr>
<td>BTX 1503 Acne</td>
<td>Phase 2</td>
<td>First patient enrolled in Phase 2 study, Patient enrolment complete, Phase 2 multi-centre acne patient clinical study</td>
</tr>
<tr>
<td>BTX 1204 Atopic dermatitis</td>
<td>Phase 2</td>
<td>Pre-IND Meeting for Phase 2 study, First patients Phase 2 study, Phase 2 multi-centre AD patient clinical study</td>
</tr>
<tr>
<td>BX 1308 Psoriasis</td>
<td>Phase 1b</td>
<td>Phase 1b study in psoriasis patients</td>
</tr>
<tr>
<td>BTX 1801 Antimicrobial</td>
<td></td>
<td>Identification of skin disease indication, Collaboration with University of Queensland</td>
</tr>
<tr>
<td>Permetrex™</td>
<td></td>
<td>Research collaborations and partnership discussions</td>
</tr>
</tbody>
</table>

Milestones
Contact us

Matt Callahan
Botanix Pharmaceuticals
Founder and Board Executive Director
P: +1 215 767 4184
E: mcallahan@botanixpharma.com

Visit us
www.botanixpharma.com
Follow us on social media

Botanix Pharmaceuticals Limited (ASX:BOT)