aero therapeutics

Every breath matters.
Aero Therapeutics

Leadership

Jamison Langguth MPH, MSED
CEO & Co-founder

Alex Woods MD, MPH, BSE
VP Business & Clinical Dev.

Scientific and Clinical Advisory

Anjelica Gonzalez PhD
Co-founder

Sten Vermund MD, PhD, DRPH

Wally Carlo MD

Regulatory Advisory

Brian Harvey MD, PhD

Jun Chen MBA
Business Development

Teresa Saraswati
Business Development

Vatsal Patel M.Sc
Engineering Team Lead

Nathanial Boyd
Preprocessing Intern
Respiratory Distress Treatment Options in the Neonatal Setting

- Full Mechanical Ventilator
- CPAP
- Our Intended Device

Intellectual Property:
PORTABLE AND COMPACT SYSTEM FOR DELIVERY OF HUMIDIFIED HIGH FLOW NASAL CANNULA (HHFNC) THERAPY IN NEONATES AND INFANTS” Docket Number PCT Filed 23Aug2019: 047162-5227-P3US
Earlier Design Testing

- Data collected over N=37 tests of an earlier prototype signal that our device is comparable to commercially available high-flow devices in many aspects: it can warm, humidify, oxygenate and self-sterilize.
- Upgraded design since these tests were run.

Early Temperature Data

```
Time in Minutes  Temperature in Celsius
0               25
50              31
100             32
150             33
200             34
```

Early Humidity Data

```
Time in Minutes  % Relative Humidity
0               100
50              95
100             90
150             85
200             80
```

UV Sterilization Results

- Negative Control
- Positive Control
- 90 Seconds of Sterilization
Accelerators, Awards, Funding & Partners

Offered San Diego JLABS Slot

Johnson & Johnson

INNOVATION | JLABS

USAID

newchip

VENTUREWELL™

idea to impact

Sustainable Health Initiative

Yale Institute for Global Health

HAVARD | BUSINESS | SCHOOL

Alumni Angels Association

HBS ALUMNI

NEW VENTURE

COMPETITION
There is a sizable market for this kind of technology that is growing.
# Competition

<table>
<thead>
<tr>
<th></th>
<th>Improvised Care</th>
<th>LMIC STANDARD</th>
<th>HIC STANDARD</th>
<th>PremieBreathe</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Bubble CPAP</td>
<td>Humidified Nasal Cannulas:</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td><em>Pumani</em></td>
<td><em>Vapotherm HVNI</em></td>
<td></td>
</tr>
<tr>
<td>Humidified</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Warmed</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Auto H2O Sterilization</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Mixes O2</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Price (USD)</td>
<td>Low</td>
<td>~$900</td>
<td>&gt;$1,500-$5,000</td>
<td>$500 (COGS~$300)</td>
</tr>
</tbody>
</table>

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Deploying Our Self-Sterilizing Respirator
Beachhead Market: Ethiopia and India

>3.5 million premature births in our beachhead market every year.

20,200 Hospitals to sell 5+ respirators to.
# LMIC: $50M in Revenue by Year 5

<table>
<thead>
<tr>
<th>Year</th>
<th>Year -1</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
<th>Year 6</th>
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<tbody>
<tr>
<td>Revenue (USD Million)</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>17</td>
<td>38</td>
<td>83</td>
<td>181</td>
</tr>
<tr>
<td>COGS (USD Million)</td>
<td>0.54</td>
<td>3.12</td>
<td>5.66</td>
<td>12.19</td>
<td>26.47</td>
<td>57.80</td>
<td>126.77</td>
</tr>
<tr>
<td>Devices Sold</td>
<td>892</td>
<td>1,618</td>
<td>3,483</td>
<td>7,562</td>
<td>16,515</td>
<td>36,219</td>
<td></td>
</tr>
<tr>
<td>Cume. Devices Sold</td>
<td>892</td>
<td>2,511</td>
<td>5,102</td>
<td>11,045</td>
<td>24,077</td>
<td>52,734</td>
<td></td>
</tr>
<tr>
<td>Devices Donated</td>
<td>520</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Yale Lab Ethiopia**
  - 200+ Hospitals
  - 20 Donated Devices

- **Regional hospitals**
  - Health centers

- **Aero India**
  - 20,000+ Hospitals
  - 500 Donated Devices

- **Regional hospitals**
  - Rural hospitals
  - Medical device retailers

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Blavatnik Aims – Apply for 510k Approval

- Per FDA, we do NOT need to run in human clinical trials for regulatory approval.
- Only bench testing is needed.

**AIM 1 – Evaluate Upgraded Design**

1) assess the efficiency of the new reservoir
2) assess the reconfigured airflow path, and
3) assess the new air pump.

**Duration:** Up to two months.

**Cost:** $50,000

**Agreements in place to outsource to the following:**
Cadence / Synectic, & Tangible Design.

**Criteria for acceptance:** The design will prevent bacteria from being transferred into the humidified air, the design will mix up to 97% O2 in output air mixture, and the design will be able to deliver 10 L/min for 300 minutes.

**AIM 2 – Establish Performance & Safety Data**

1) efficiency of humidification & temperature control
2) environmental impact (rainout testing), and
3) effectiveness of UVC components preventing pathogenic accumulation.

**Duration:** Up to two months.

**Cost:** $100,000

**Agreements in place to outsource to the following:**
Ximedica & Tangible Design.

**Criteria for acceptance:** the design will humidify water up to 95% within 5 mins, output air temperatures will remain stable between 30-34 deg C, condensation will be prevented for environmental temperatures as low as 20 deg C, and UV-C components will eliminate bacteria from water solution within 90 seconds.
2021 Blavatnik Execution Timeline

Preparation

AIM 1

AIM 2

Blavatnik Summary & Regulatory Application
www.breatheaero.com
Beachhead Market Entry

1. Target overlooked segments of the global market: Ethiopia and India are neglected segments.
2. Gain a foothold: sell quality at a lower price than competitors.
3. Rapidly move up-market.

• Individual Device Sales
• Freemium in exchange for clinical data

Yale Lab Ethiopia

Aero India
High Income Country Expansion

US/EU Expansion

- Higher pricing = profitability
- New revenue sources in HIC:
  1. Direct / indirect customers
  2. Consumables
  3. Outcomes-based pricing
  4. Licensing
  5. Servicing agreements
  6. Other indications

Established Clinical Data

- Individual Device Sales
- Freemium in exchange for clinical data
Earlier Generations of PremieBreathe

Ver. 3.0

Ver. 4.0