Routine Machine
Develop behavioral patterns to boost your emotional and cognitive health
Routines bolster brain circuits to reduce stress, depression & suicide, fostering cognitive health.

- Regular social interactions
- Regular physical activity
- Regular meal-times
- Regular sleeping hours
Develop a scalable digital health application for ubiquitous use to improve brain, & thereby emotional & cognitive health

Application highlights

01. Real time info
02. Personalized feedback
03. Reduced stress, depression & suicide risk; improved cognition
04. Evidence based app
05. More comprehensive than current apps
06. Experienced Team & SAB
**Built on BE-SMART: Brain Emotion Circuitry-Targeted Self-Monitoring & Regulation Therapy**

*Designed by neuroscientists and clinicians to target brain circuitry that regulates emotions by modifying behavior*

- Regularizing sleep and other daily rhythms in clinical trials of face-to-face interventions shown to improve mood
- Study investigated social rhythm therapy delivered predominantly via telehealth to adolescents and young adults with bipolar disorder
- 12 sessions teaching healthy self-strategies - First, middle, and last sessions were conducted in person, 9 offered on a secure video platform
- Wearables and smartphones included for tracking mood, sleep and physical activity

$3.4 Million in Government and Foundations funding support

- $1.7M NIMH and $1.7M Foundations
- Supported by patient advocacy groups including youth depression, suicide prevention and women’s health

BE-SMART results indicate that predominant telehealth intervention is feasible & acceptable to improve mood symptoms & reduce suicide risk

Rare demonstration of robust beneficial brain effects of an intervention in which individuals learn strategies to change their behavior; fMRI images on the left

BE-SMART demonstrated:
- high acceptability and feasibility
- improved regularity of sleep and other daily patterns
- improved emotion regulation
- reduction in mood symptoms
- decreased hopelessness
- reduction in suicide propensity

BE-SMART results supports the need to explore this evidence-based therapy delivered through telehealth

Sankar et al, Am J Psychotherapy, 2021
Routine Machine is creating a new market in the mental health wellness space building on scientific discovery

01. **Real time info** – about user patterns to improve their emotional and cognitive health

02. **Personalized feedback** - what works for YOU to help shift behavior at your pace and develop consistent patterns

03. **Promote mental wellness** - reduce and prevent emotional and cognitive symptoms by reducing stress, depression and suicide risk

04. **Evidence based app** – leveraging AI and data analytics; backed by 6 years of collected patient data and $3.4 M funding

05. **$3.8 Billion Market** – Mental Health App Market Value Projected To Reach US $3.8 Billion by 2027

06. **Experienced Team and SAB** - developed by doctors and scientists and supported by patient advocacy groups
Routine Machine harnesses patient data & AI to provide comprehensive mental healthcare with simple user interface

<table>
<thead>
<tr>
<th>Type of therapy</th>
<th>Routine Machine</th>
<th>headspace</th>
<th>NOOM</th>
<th>lyra</th>
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</thead>
<tbody>
<tr>
<td>Hybrid of consumer-directed apps &amp; healthcare providers</td>
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<tr>
<td>Consumer-directed tools &amp; apps for stress/sleep</td>
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<td>Healthcare providers</td>
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</tbody>
</table>

- **Pattern based approach**: Yes for Routine Machine, No for others except lyra.
- **Personalized recommendations**: Yes for Routine Machine and lyra, No for others.
- **Real time intervention**: Yes for Routine Machine and lyra, No for others.
- **Insurance/ payer coverage**: Yes for Routine Machine and lyra, No for others except lyra.
Blavatnik award will advance the Routine Machine program to the critical next step of app development & testing

- **~$40,000** to hire an experienced digital healthcare app developer and to recruit beta testers
- **~$20,000** for data analysis to improve interventions and patient outcomes
- **~$15,000** to contract CRO for data safety and confidentiality compliance
Milestones to achieve with the application of Blavatnik award

| Software engineering of MvP ($40,000) | 1. Contract an experienced digital healthcare app developer – develop a GUI and mobile application for BE-SMART study  
2. Recruit beta testers - to ensure the app is ready to be released in the market, serving the users wells  
This would ensure the Routine Machine can be an effective mobile application |
|---|---|
| Data analytics & management ($20,000) | 1. *Data analysis* - to improve interventions and patient outcomes  
Routine Machine is expected to generate a large amount of user data and CRO will be useful to generate, analyze, management and set up a pipeline for future data analysis |
| QA/QC, data safety & confidentiality ($15,000) | 1. *Data safety and confidentiality compliance* – Contracting CRO for data safety and confidentiality compliance  
Routine Machine will be dealing with patient data, this will ensure compliance to regulatory affairs |
Routine Machine combines scientific expertise in psychiatry, neuroscience and mood disorders with business development and entrepreneurship

Hilary P. Blumberg, MD
John & Hope Furth Professor of Psychiatric Neuroscience; Professor of Psychiatry, Radiology & Biomedical Imaging & in the Child Study Center; Director, Yale Mood Disorders Research Program at Yale University

Holly Swartz, MD
Professor of Psychiatry; Director, Center for Advanced Psychotherapy; Medical Director, Depression and Manic Depression Prevention Program at Pittsburgh University Medical Center

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Blavatnik Fellow at Yale University

James G. Boyle, PhD
Executive Director, Faculty Entrepreneurship & Venture Development (Advisor)
In conclusion, Routine Machine aims to deliver a friendly way for users to improve their own mental wellness and prevent and reduce symptoms and suicide.

For questions, comments or additional information please contact:

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