



Psy-Phy

Problem

High incidence of psychological illness due to physical injury or disability:

PTSD resulting from acute physical trauma in active duty service members



~7x

*More likely to
develop PTSD*



\$294M

*DoD spent on PTSD care for
service members*



70%

*Chance of
non-response*



Psychotherapist



Physical Therapist

More Effective as Co-Treatment*

- **Addresses Neural Pain and Trauma Pathways**
- **Modifies Response System to Pain**
- **Improves Compliance**
- **Offers Cross-Provider Care**

*Saunders, Christine, and Maureen Maxwell. "The case for counselling in physiotherapy." Physiotherapy 74.11 (1988): 592-596.



Psychotherapist



Patient

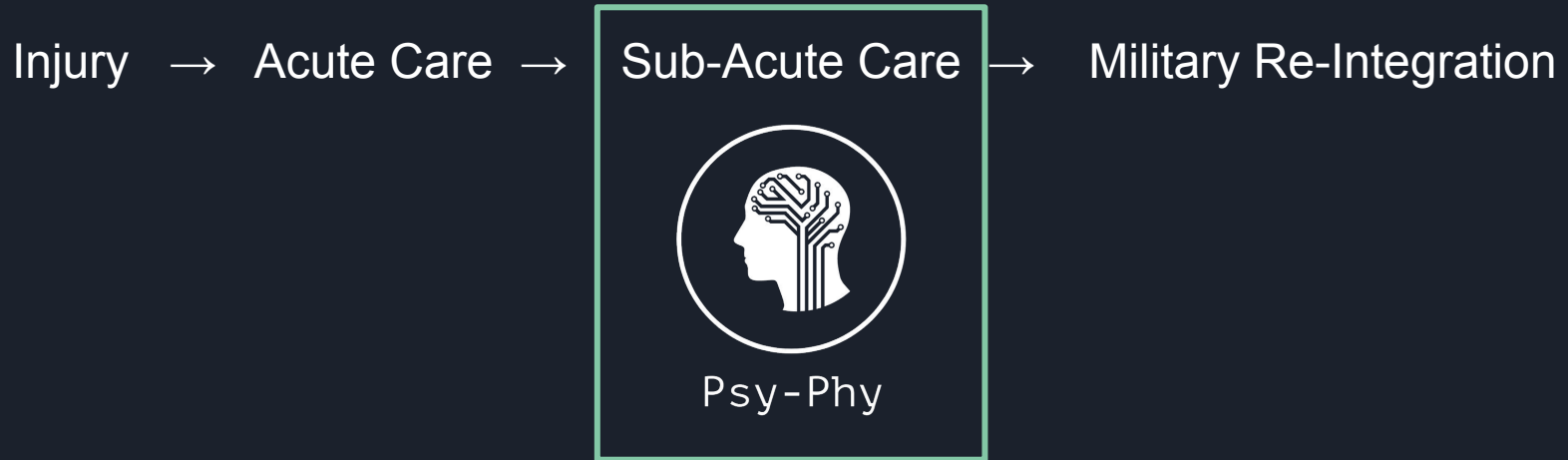


Physical Therapist

Virtual Reality Platform

- Remote Care
- Real Time
- Both Therapists
- Early Intervention
- Advanced Data Capture
- Immersive

Patient Journey & Psy-Phy Positioning



Data

Storage &
Transformation

FHIR & IRIS

EMR



DSM Criteria



Eye Movement



Motion Capture



Mobility Metrics



Trends



Media



Medical record

Market

Sub-Acute Care



Landstuhl
US Military Hospital, Germany

Re-Integrative Care



Est. **\$1B** market size

MARKET EXPANSION



Sports Injury



Chronic Pain



Chronic Disability



Elder Care

Competitive Landscape

	Clinical-Based Care	Competitors	 Psy-Phy
Co-Treatment	X	X	✓
Remote Care	X	GoodRx Care. K Health, Doctor on Demand, Telado etc	✓
Advanced Data Capture	X	X	✓
PTSD - Focused	✓	CBT-i Coach. ACT Coach. STAIR Coach etc.	✓



Business Model

DoD SaaS annual license subscription

\$10K

DoD annual license cost
*50% of annual patient costs
associated with PTSD**

1000

Est. # of licenses

\$10M

Revenue
Projected by 2024

*von der Warth, R., Hehn, P., Wolff, J. et al. Hospital costs associated with post-traumatic stress disorder in somatic patients: a retrospective study. *Health Econ Rev* 10, 23 (2020). <https://doi.org/10.1186/s13561-020-00281-0>

Psy-Phy Multidisciplinary Team



Theo Ho

Engineer,
Virtual Reality,
Medical Devices

MIT MechE



David
Goldovt-Ryzhenkov

US Army Officer,
DoD Contracts,
Meditation Group

Davis Center at Harvard



Dr. Beth Hakamy

Physician,
Clinical Research
Informatics

Abiomed Inc.



Dr. Kimon
Doukoumetzidis

Scientist,
Commercial
Strategy

MIT Sloan



Dr. Shehara Mendis

Physician,
Medical
Diagnostics

MIT Sloan

Appendix





Why combine Psychotherapy and Physiotherapy?

- modify the physiological response system to pain* (based on the assumption of a pain-tension cycle, where pain is viewed as cause and result of muscular tension)
 - Supporting Study**: Operant-behavioural and cognitive-behavioural treatment for chronic low back pain
- addresses brain structures associated with pain such as the amygdala, hippocampus, and prefrontal cortex***
 - Supporting Study****: EMDR in the treatment of chronic pain
- Reduces non-adherence to physiotherapeutic regimens
 - Supporting Study*****: Interventions for enhancing adherence with physiotherapy

*Roditi, Daniela, and Michael E Robinson. "The role of psychological interventions in the management of patients with chronic pain." Psychology research and behavior management vol. 4 (2011): 41-9. doi:10.2147/PRBM.S15375

**Nicholas, Michael K., Peter H. Wilson, and Jocelyn Goyen. "Operant-behavioural and cognitive-behavioural treatment for chronic low back pain." Behaviour Research and Therapy 29.3 (1991): 225-238.

***Hughes, Megan. "EMDR as a therapeutic treatment for complex regional pain syndrome: A case report." Journal of EMDR Practice and Research 8.2 (2014): 66.

****Grant, Mark, and Catherine Threlfo. "EMDR in the treatment of chronic pain." Journal of clinical psychology 58.12 (2002): 1505-1520.

*****McLean, Sionnadh Mairi, et al. "Interventions for enhancing adherence with physiotherapy: a systematic review." Manual therapy 15.6 (2010): 514-521.



What are the Current Barriers to PTSD Care for US soldiers?

- Low responses to current treatment
- Poor availability of mental health services in many parts of the U.S.
- Social stigma associated with mental illness.
- No timely access to care, due to a lack of provider appointment availability, leading to months-long waiting times.



Why licensing?

- We are commercializing software
- Military volume purchasing
- Even in peace time for preparation



Why This Beachhead Market?

- Significant Unmet Need
- Strong Validation
- Large DoD Innovation Budget
- Team Expert in Military Contracting



Why Virtual Reality?

- Enables Early Intervention
- Makes Remote Care Possible
- Allows for Comprehensive Data Tracking
- Facilitates De-Stigmatization