GUIDED BY AI, DRIVEN BY YOU

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# The Future of at-home Physical Therapy with Extended Intelligence (XI)







Physio XI delivers real-time, clinically validated movement quality feedback using adaptive AI — without wearables or expensive hardware.

#### THE PROBLEM

Movement quality is invisible once patients leave the clinic and must maintain exercises on their own.

Specialized hardware remains costly and impractical for most clinics and individuals, blocking scalability.

Static home programs are unable to track and celebrate patient progress; engagement and adherence nosedive within days.

When AI is a black box, trust breaks down—for patients, clinicians, and practitioners alike.

Form errors in exercises go unchecked, stalling recovery and risking re-injury.

Motivation fades. Errors go unchecked. Recovery slows.

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# **Active, Adaptive AI that Understands Movement**

#### THE SOLUTION

- Markerless motion tracking delivers real-time biomechanical analysis.
- Runs on smartphones and tablets no wearables, no headsets.
- Adapts to patient progress with personalized feedback loops.
- Transparent, open-source clinical benchmarks drive trust and adoption.
- Clinician-calibrated Al detects faults like knee valgus, spinal compensation.

#### **TECHNOLOGY & IP**

We aim to become the industry benchmark for open, adaptive Al in rehab — trusted by physical therapists, covered by insurers, and accessible on any smartphone.

# Temporal graph Al for longitudinal recovery tracking

Physio XI adapts to the user's progress over time via cutting-edge advancements for better prediction and recommendation during recovery.

#### **Barriers to entry:**

real-time feedback + clinical benchmark + model transparency + data pipeline

Physio XI combines scientific rigor and seamless UX. Achieving this integration of intelligence, trust, and usability will readily set our product at the forefront of competitors.

# Reinforcement learning guided by clinician corrections

Our Al doesn't just learn from data—it learns from experts through clinician-guided feedback to enhance model accuracy and trustworthiness.

# Hardware-aware model optimization for smartphones (<400ms latency)

Real-time insights and guidance are enabled by efficient compression of the Al model based on device settings for best possible performance.

#### **COMPETITIVE LANDSCAPE** HARDWARE NEEDED FEEDBACK TYPE AI ADAPTATION / OPEN SOURCE TARGET USE Smartphone or Tablet Clinic Real-time TV (smartcast) Yes / Yes PHYSIO XI Adaptive Home VR (option) **HINGE HEALTH** Wearables No / No Pain Mgmt Range of Motion only Range of Motion + basic No / No **ONESTEP** Smartphone General PT form **XRHEALTH** VR Headset VR session-based No / No Niche / Clinic

# FDA & Reimbursement Readiness

#### **REGULATORY & REIMBURSEMENT PATHWAY**

#### **FDA Pathway**

Planning for FDA pre-submission (SaMD, Class II) in Phase II

#### Phase I

IRB-approved study (n=15) with clinician-Al agreement metrics.

#### **Validation Metrics**

Cohen's *k* >0.8; SAE reporting aligned with FDA guidelines.

#### Reimbursement

Payer discussions to align with CPT codes for remote therapeutic monitoring (RTM)

#### **MARKET OPPORTUNITY**

#### Overview

TAM: \$1.5B SAM: \$750M SOM: \$35M

#### **Primary Targets**

250K+ Physical Therapists 30K+ Senior Living Facilities

#### **Expansion Toward**

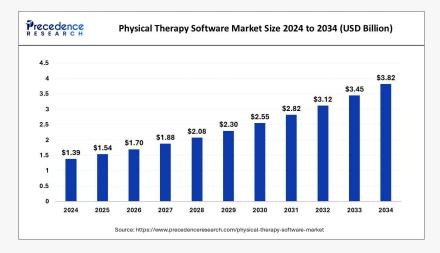
**Primary:** Physical therapy clinics and rehab specialists

**Secondary:** Senior living communities, outpatient surgery centers, home health orgs

Future: Telehealth platforms & personal health systems, insurance payers, sports medicine,

manufacturing, VA, DOD

A Billion-Dollar Rehabilitation Market Ripe for Disruption



\$12M

At 1% market capture among PTs and senior living facilities, projected annual revenue is \$12M, on par with or exceeding early-stage competitors.

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#### **Cost Structure**

R&D (AI, motion capture, edge optimization)

Clinical validation & regulatory compliance (IRB studies, clinician recruitment)

Cloud infrastructure for model updates and clinician feedback loop

Customer support, onboarding, and training

Sales and channel partnerships

#### **Key Activities**

Al model development

Clinician annotation loops for reinforcement learning

Platform development and mobile edge deployment

Strategic partnerships for distribution (clinics, health systems)

Regulatory pathway planning (FDA engagement)

#### **Revenue Streams**

**B2B SaaS Licensing**: Monthly/annual subscription model for clinics, senior living facilities, and health systems

**Per-Patient Licensing**: Clinics and PTs pay per active patient seat/month

**Pilot-to-Enterprise Expansion** (multi-site or network-wide)

#### **Key Partnership**

Clinical pilot sites: physical therapy clinics, senior living facilities

Research hospitals for validation and clinician feedback

Al researchers for open-source development and benchmarking

Payers for reimbursement validation

#### **BUSINESS MODEL**

Physio XI will monetize through SaaS licensing and per-patient pricing models for PT clinics and senior living facilities. We begin with pilots and scale into broader contracts, anchoring clinician trust and payer readiness through validation and open benchmarks.

High gross margins, scalable tech, and growing demand for reimbursable home rehab fuel long-term growth.

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#### FINANCIAL SUMMARY — PRO FORMA

	2026	2027	2028	2029	2030
Users	20	74	298	878	2703
License (\$)	1200	1800	2600	3200	3600
Revenue (\$M)	0.04	0.20	0.93	3.14	11.92
Expenses (\$M)	1.06	1.51	2.36	3.93	6.94
Net Income (\$M)	-1.02	-1.32	-1.42	-0.78	+4.98

#### **BUSINESS MODEL METRICS - Base Case**

250K licensed PTs (addressable market)

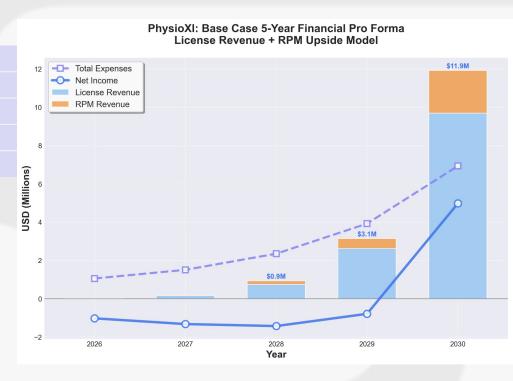
7:1 LTV:CAC Ratio at 1% market capture

CAC: \$1,750

Customer LTV: \$12,000

Values found from Monte Carlo Analysis.

Detailed breakdown in Appendix.



# We seek \$5M to fund MVP deployment, clinical validation, and payer engagement — building our evidence base toward scalable, reimbursable growth.

#### **FUNDING & USE OF PROCEEDS**

#### **Current Raise: \$5M Seed**

MVP deployment in 5 pilot sites

Longitudinal case studies

FDA Pre-Submission + payer engagement

Team build-out (tech, product, clinical liaison)

Edge deployment optimization

# Milestones Funded by this Seed Round:

First commercial contracts (clinics and senior living)

Validated patient outcomes + PT feedback loops

Regulatory pathway defined

Payer discussions initiated

Revenue readiness by end of round

#### **Total Capital Estimation:**

#### To Positive Cash Flow ~\$4M

Covers infrastructure, MVP validation, core team, early sales

Predicts modest initial revenue offsets around Year 3

## To Exit-Readiness ~\$6-8M across two rounds

Includes scale-up, regulatory approval, payer integration

Positions for strategic acquisition or Series B

#### MULTIPLE EXIT PATHWAYS IN HEALTH TECH ECOSYSTEM

#### **Strategic Acquisitions**

#### **Digital MSK Therapy Platforms**

*E.g.*, Hinge Health, Sword Health *Want*: tech that improves outcomes, payer traction, and clinical differentiation

#### **Medtech & Surgical Recovery**

*E.g.*, Stryker, Zimmer Biomet *Want*: patient monitoring + digital recovery solutions aligned with their core offerings

#### **VR/XR Health Tech Startups**

E.g., XRHealth, MindMaze

Want: movement intelligence + mobile-first product to expand market footprint

Also,

Employer Wellness Platforms, Big Tech, & Consumer Health to consider!

#### **Precedents & Market Signals**

**Hinge Health valuation** \$2.5B+ (digital MSK therapy, but no real-time quality feedback) [source]

**Sword Health raised** \$340M+ (camera-based home PT, but no adaptive AI) [source]

Kaia Health partnered with major payers but lacks clinical transparency or open benchmarks [source]

**MindMaze raised** \$220M+ for neurorehab; strong appetite for Al-driven, rehab-specific platforms [source]

#### **Exit Timeline**

Seed Stage (Now–18 months) previous slide for details

Series A (18–36 months)
Expand to 100s of clinics and home deployments.

Demonstrate real-world ROI: patient adherence, outcomes, and provider efficiency.

Pursue FDA clearance or formalize digital therapeutic recognition.

Series B, or Exit (36–48 months)
Achieve positive cash flow and clinical data milestones to attract acquirers.

Potential acquisition by strategic partners seeking to enhance their digital health offerings.



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### Let's Transform Rehabilitation Together

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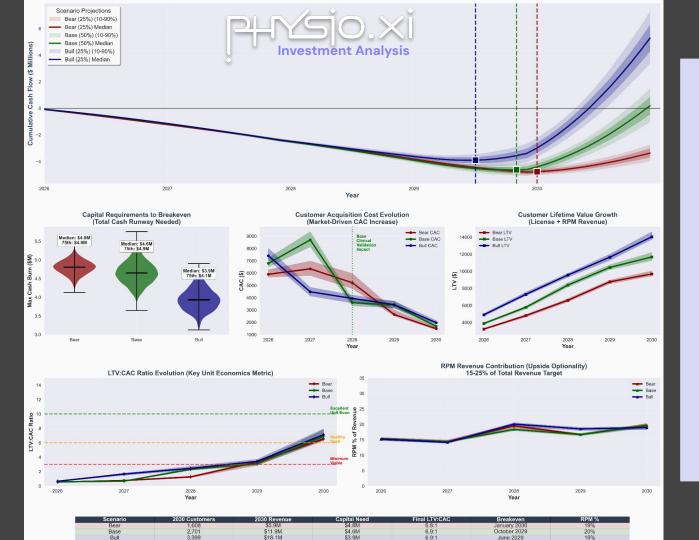




Seeking visionary SEED investors to scale clinically-validated, Al-driven Physical Therapy

APPENDIX WITH SUPPORTING DATA AVAILABLE UPON REQUEST

# **APPENDIX**



## Systematic Business Outlook

Bear Case SaaS growth delivers \$6M revenue (~0.5% market capture)

Regulatory milestones drive both efficiency gains and market positioning

7:1 LTV:CAC ratio = solid unit economics grounded in market reality

\$5M ensures runway execution with quantified confidence

Monte Carlo modeling confirms robust projection



#### ML / AI / VR in Healthcare

 A growing body of research finds that Al-driven home-based rehab is highly effective at encouraging patient compliance through personalized approaches.

Abedi et al. (2024)—https://doi.org/10.1038/s41746-024-00998-w Khalid et al. (2024)—https://doi.org/10.2147/IJGM.S453903 Melnykova et al. (2020)—https://doi.org/10.3390/math8081211

Tack (2019)—https://doi.org/10.1016/j.msksp.2018.11.012

#### Real-Time Feedback in Rehabilitation

Sports training and physical rehab studies show improved performance using real-time interactive feedback via wearable devices and MMT systems.

Kang et. al. (2024)—https://doi.org/10.3390/jcm13237377

Hribernik et al. (2022)—https://doi.org/10.3390/s22083006

Beibl et al. (2021)—https://doi.org/10.2196/26658

Junata et al. (2021)—https://doi.org/10.1186/s12984-021-00922-3

#### **Open Source Data**

Our proposed technology will take advantage of key data repositories for real-world rehab poses, markerless AI training, and therapy-specific movement analysis.

SynthMoCap, Hewitt et al. (2024)—https://doi.org/10.1145/3687772

UCO Physical Rehabilitation, Aguilar-Ortega et al. (2023)—doi.org/10.3390/s23218862

PHYTMO, García-de-Villa et al. (2022)—https://doi.org/10.1038/s41597-022-01387-2

#### Al Model Optimization for Edge Devices

Physio XI will leverage cutting-edge advances in AI model optimization for efficiency, accuracy, and adaptability across devices and data types.

Wang & Jia (2025)—https://doi.org/10.48550/arXiv.2501.03265

Zhou et al. (2024)—https://doi.org/10.48550/arXiv.2408.12840

Benmeziane et al. (2021)—https://doi.org/10.24963/ijcai.2021/592

#### **Empirically Validated, Scientifically Motivated**

#### Synthetic Data in ML / Al

Synthetically augmented data can render more robust training sets, providing time- and cost-effective solutions while overcoming privacy risks.

Perrone et al. (2024)—https://doi.org/10.1101/2024.09.27.24314497

Dindorf et al. (2024)—<u>https://doi.org/10.3389/fbioe.2024.1350135</u>

Bicer et al. (2024)—https://doi.org/10.1016/j.jbiomech.2024.112358

Giuffrè & Shung (2023)—https://doi.org/10.1038/s41746-023-00927-3

#### Markerless Motion Tracking in Rehab

MMT has an established track record in rehab applications that use pre-recorded data to produce actionable reports.

Schoenwether et al. (2025)—https://doi.org/10.1371/journal.pone.0316119

Das et al. (2023)—https://doi.org/10.1038/s41598-023-49360-2

Pottorf et al. (2023)—https://doi.org/10.26603/001c.88003

Mauntel et al. (2021)—https://doi.org/10.4085/1062-6050-0023.20

#### **Reinforcement Learning in Clinical Settings**

RL can enable adaptive, human-centered real-time healthcare tools—a paradigm shift from their current role as predictive models.

K et al. (2025)—https://doi.org/10.7759/cureus.82756

Jayaraman et al. (2024)—https://doi.org/10.1038/s41746-024-01316-0

Liu et al. (2020)—https://doi.org/10.2196/18477

Zade et al. (2020)—https://doi.org/10.1016/j.cmpb.2020.105443

#### Temporal Deep-Learning, Modeling, and Prediction

Significant advances in temporal deep-learning methods have enhanced predictive accuracy and interpretability in critical applications in both clinical and ICU settings.

Hancox et al. (2024)—https://doi.org/10.48550/arXiv.2409.06585

Barnes et al. (2024)—https://doi.org/10.48550/arXiv.2407.09373

Zhou et al. (2024)—https://doi.org/10.1182/bloodadvances.2023011752

Chen et al. (2024)—https://doi.org/10.24963/ijcai.2024/637