

Include 3 bullets (< 30 words total) per slide – the most important messages associated with the particular slide

Team name: HEALD

Date updated: 10/11/2019

S1: Title & Elevator Pitch/Headline	<ul style="list-style-type: none"> • Hepatic Encephalopathy App for Liver Disease (HEALD) • Novel activity monitoring tool to catch decompensation early and prevent readmissions for patients with cirrhosis (i.e. end-stage liver disease)
S2: The problem and who has it	<ul style="list-style-type: none"> • 600K cirrhosis patients in US; 70% develop hepatic encephalopathy (HE), neurocognitive decline due to toxin accumulation from liver dysfunction • >115K admissions and >\$7 billion healthcare charges/year • Detecting/monitoring HE is difficult/impractical
S3: The solution	<ul style="list-style-type: none"> • HE is reversible if caught and treated early • Prompt and appropriate outpatient medication titration can lead to decreased and/or shortened hospitalizations, which reduce patient mortality and improve outcomes
S4: Product (how it addresses the problem)	<ul style="list-style-type: none"> • App-linked wristwatch tool for patients and their caregivers to passively detect and track progression of early HE • Designed for everyday use at home and requires minimal effort from the patient • App alerts patient's providers with worsening trend to prompt check-in and intervention
S5: Technology	<ul style="list-style-type: none"> • Tracks both quantity (sleep-wake and activity pattern, often first marker of HE progression) and quality of wrist/arm movements over time • Data feeds into machine learning algorithm to predict progression of HE • Feasible with current wristwatch technology
S6: Competing approaches	<ul style="list-style-type: none"> • Current clinical practice: evaluate patient every few months and hope patient/caregiver can recognize signs and alert providers • EncephalApp, tool that diagnoses (but not monitor) early HE through active user input
S7: Traction	<ul style="list-style-type: none"> • Market research: interviewed a dozen clinicians, who were all enthusiastic about idea and felt likely clinically impactful in improving outcomes and reducing readmissions • Discussed with MGH patent office • Began IRB process
S8: Team	<ul style="list-style-type: none"> • Cofounders Thomas Wang and Xing Li • Advisors include strategy: Jason Tucker-Schwartz, machine learning: Claire Zhao, and clinical: Raymond Chung, MGH liver department chair
S9: Closing	<ul style="list-style-type: none"> • Next steps: Reach out to affective computing media lab at MIT re: machine learning, explore Apple watch/Geneactiv • Apply for grants/research funding • Submit preliminary IRB