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

Team name: HEALD

Date updated: 12/1/2019

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| S1: Title  & Elevator Pitch/Headline | * Hepatic Encephalopathy App for Liver Disease (HEALD) * A passive monitoring tool to prevent HE-related re-admissions for patients with cirrhosis |
| S2: The problem and who has it | * HE is neurocognitive decline from liver dysfunction * 600K cirrhosis patients in US; 70% develop hepatic encephalopathy (HE) * >115K admissions and >$7 billion healthcare charges/year |
| S3: The problem illustrated with example patient | * Average HE patient Joe and his journey * After hospitalization and discharge with medications, he self-discontinues due to side effects, and presents to clinic too late and gets re-admitted * With proper monitoring, re-admission is preventable |
| S4: The unmet clinical need | * HE is progressive but reversible if caught and treated early * There is a need to catch HE flare/progression early and prevent re-admissions |
| S5: How the unmet need can be addressed | * Medications are very effective and can improve symptoms but do cause side effects that limit adherence * Finding the optimal medication dose and response needs a good way to closely monitor these patients * 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 |
| S6: Current solutions | * Current clinical practice relies on patient/family recognition of symptoms worsening, which is often too late * Formal diagnostics tests are impractical for routine monitoring * EncephalApp requires active patient engagement |
| S7: Our solution | * App-linked wristwatch tool for patients and their caregivers to passively track progression of early HE and catch flares early * Passively tracks both quantity (sleep-wake and activity pattern, often first marker of HE progression) and quality of wrist/arm movements * Data feeds into machine learning algorithm to predict progression of HE and alerts clinicians/patients |
| S8: Our solution | * Patients and provider team can see daily sleep and activity data, as well as trend of HE progression * The app alerts patients and providers of worsening disease or onset of HE flares |
| S9: Our research thus far | * Clinician interviews to validate unmet need and approach * Patient interviews regarding technology friendliness * Chart review to validate scope of problem at a local center |
| S10: Next steps | * Apply for grants * Design and conduct pilot study as proof-of-concept with iWatch * File IP and develop commercial strategy |
| S11:  Team | * Cofounders Thomas Wang and Xing Li * Advisors include strategy: Jason Tucker–Schwartz, machine learning: Claire Zhao, and clinical: Raymond Chung, MGH liver department chair, Nneka Ufere, MGH liver fellow |
| S12:  Closing |  |