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

Team name: EPP Light Dosimeter
Date updated: 10/11/2019

S1: Title & Elevator Pitch/Headline	• Title: Smartphone-based digital devices for quantitative disease monitoring in erythropoietic protoporphyria • Headline: If you're like most people, you enjoy the sun, and you miss it if it's gone for days or months at a time. But some people's skin can't tolerate sunlight? Erythropoietic protoporphyria, or EPP, is a lifelong medical condition that causes painful sensitivity to light. I have EPP. • My project will improve quality of life and bring new therapies to patients
S2: The problem and who has it	• Prolonged, untreatable pain • Decreased quality of life • Difficulty predicting and preventing symptoms • No precise endpoints for clinical trials
S3: The solution	• Adapt and test technologies currently used for skin cancer • Measure the exposure, the symptoms, and the biochemical response with a light dosimeter, symptom survey, and a fluorescence spectrometer, respectively. • In the future, understanding this data will be able to guide patients symptoms and improve quality of life and provide quantitative endpoints for clinical trials, bringing new therapies to patients.
S4: Product (how it addresses the problem)	• The light dosimeter was designed by SunSense and measures visible light exposure • The fluorescence spectrometer was designed by Labby and measured the amount of a fluorescence biomarker in the skin called protoporphyrin
S5: Technology	• A visible light sensor was added to a smartphone-based wearable light dosimeter that already measures UV light. • A cutaneous smartphone-based spectrofluorometer was designed for skin screening. This was adapted so that the excitation and emission properties are specific for protoporphyrin.
S6: Competing approaches	• There currently exists no method for patients to monitor exposure and predict their symptoms. • For clinical trials in EPP, these have used a light exposure diarries. • The primary end point of the last trial completed in 2011 was the cumulative number of hours in direct sunlight between 10am and 6pm without pain over a period of 6 months.
S7: Traction	• In addition to the Spark Grant, the Porphyrias Consortium was able to receive renewed funding for their U54 grant. Though not directly for this project only, I'll be getting a part-time clinical coordinator through that. • I have Partnerships through SunSense and Labby. • I am doing a healthcare innovation fellowship through the Healthcare Transformation Lab at MGH. I also am a trainee of the American Porphyia Foundation and a satellite site of the Porphyrias Consortium.
S8: Team	• My supporting mentors at MGH are Irene Kochevar and David Christiani • I have mentorship through the IDEA2 program and the Healthcare Transformation Lab.
S9: Closing	• **The goals:**guide patient exposure and quantitative endpoints for clinical trial data collection • **Ways this will help patients:** improve quality of life and facilitate the approval of new medications for EPP and other forms of photosensitivity