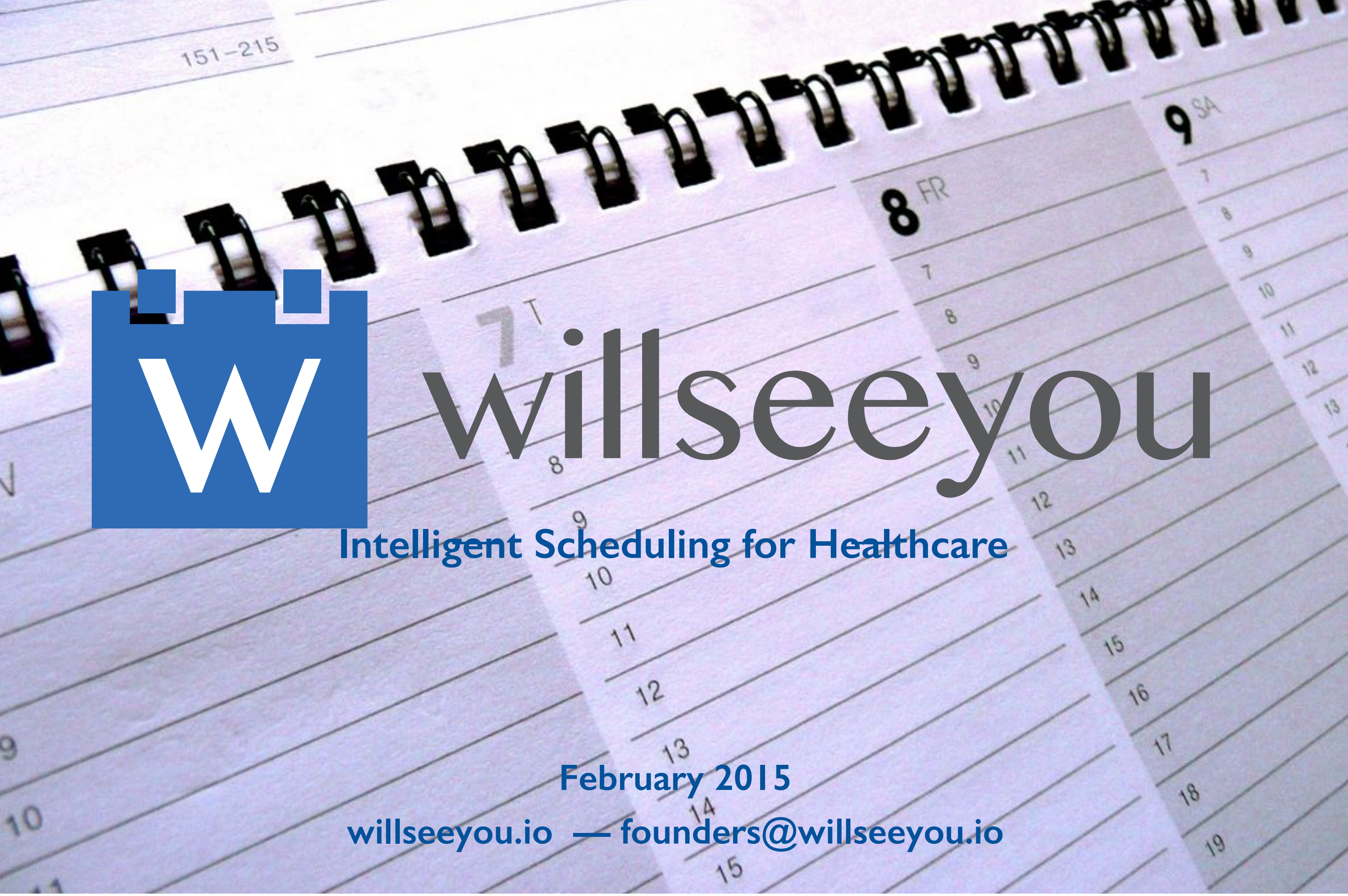

willseeyou

Intelligent Scheduling for Healthcare

February 2015

willseeyou.io — founders@willseeyou.io

Scheduling is a Pain Point in Healthcare

- **Patient no-shows/late shows who do not cancel in time for slot to be rebooked** results in the loss of15%-50% of daily appointments across diverse medical specialties (100+ clinics we interviewed). Implications:
    - Patients who miss appointments become harder to treat
    - Clinical inefficiency: 20% no-show rate = Paying to keep idle clinic open 1 day a week
    - Providers have little control of schedule/patient flow day to day
    - Estimated loss: $150 k/yr/physician or $1 M/hospital in potential appointment revenue
- Appointment time is **variable** btw. patients/providers, but schedules do not take this into account/contributes to long patient wait times in clinic, inefficiencies, and long wait-to-appointment for patients (months for certain specialties)
- **Current solutions insufficient:** Double-booking everyone (long wait times/unpredictability) and text/call reminders (generic reminders not effective with certain patients) open-access scheduling (hard to predict how many same-day appointment slots to leave)
- **Financial penalties** are linked to patient dissatisfaction (Long wait times reduce government HCAHPS payments totaling $1 Bn/year to hospitals)
- **Loss of patients**
    - #1 reason patients switch providers is long time-to-appointment and wait times

Our Solution: willseeyou

- We have developed a **proprietary, efficient** predictive solution using deep learning techniques (machine learning) that allows us to learn from clinical encounter data, and predict who will and won't show up to their appointments, and probable appointment length for patient/provider pairs.
    - Have developed a novel way of quickly adapting algorithms to variable types of data (because record-keeping varies among clinics) so that software is universal/scalable
    - Have developed a method that allows our software to work without being integrated with health record systems = huge cost reduction/gains in implementation efficiency
- We couple these predictions to scheduling/optimization algorithms similar to those used in airline scheduling (see, e.g., Johnson et al., Nemhauser et al., *Operations Research* and *Management Science*) to give recommendations: 1) When to book patients, given no-show risk (recommend intelligent/targeted overbooking) 2) with which provider to book them in multi-provider clinics; 3) how long to book appointments 4) who is most at risk, for targeting with costly interventions (personalized human phone calls, house visits) to ensure patients make their appointments
    - Our software integrates with major scheduling software used in clinics
- **Identified Market:** High revenue, complex needs, procedure driven, multi-practitioner. If we charge $300/month/SaaS license (per computer) across identified target specialties: GI, Dermatology, Dentistry; ENT; Opthalmology, this gives us an estimated potential market of **$1.2 billion/year**

willseeyou Scheduling Tool | Home | Schedule Patient | Calendar | Clinic Dashboard

Patient Name
Anne Green

Appointment Type
Followup

Preferred Provider
Any

Date Range
2014-10-22 to 2014-10-25

Preferred Times
- [x] Monday am
- [x] Monday pm
- [ ] Tuesday am
- [ ] Tuesday pm
- [x] Wednesday am
- [x] Wednesday pm
- [x] Thursday am
- [ ] Thursday pm
- [ ] Friday am
- [ ] Friday pm

Coverage Type
Medicaid

Age
36

Gender
Female

Minor Children
No

HUP Risk Flags
Yes

Marital Status
Married/Partnered

Medical Flags
Dementia

Known No-Show
Last 6 Mo.

Schedule Patient

Progress + Timeline

- **MVP built during DreamIt Health Philadelphia Accelerator, Fall 2014**
- **Pilots secured/in progress**
    - 8 pilots across specialties at Penn Medicine; 2 dental clinics; 1 opthalmology clinic; 1 gastroenterology clinic at NYU
- **Results**
    - 90% accuracy of predictions of no-shows/delinquencies across 100,000 patients in a large academic hospital system
    - In 8 weeks of trials at 2 clinics, 75%+ accuracy in delinquency prediction; 20+% increase in clinic utilization over baseline through rebooking of predicted no-shows; 30% reduction in time-to-appointment through predictions
- **Future**: Complete pilots (March 2015); first sales to clinics from pilot customers (May 2015); become integrated with top 3 electronic health record systems (cost of ~$4,000/system to become certified software) in Summer 2015. Any funds secured will be used to fund integrations.

Team

- **Shaudi Mahdavi-Hosseini,** Penn SEAS ESE PhD ‘15, CEO: machine learning, industry experience in customer segmentation modeling @marketing consultancy/quant @ investment bank; fmr startup COO at CHOP

- **Yun Rose Li,** Penn MD/Bioengineering PhD in progress, Medical Ambassador; quality assurance/cost reduction research + computing research published in *Nature* and *Science ;* fmr. medical advisor to Y Combinator healthcare startup

- **Becca Nock,** Penn PhD, School of Nursing, CTO: background in electronic health record research and clinical informatics; School of Nursing startup experience

- **Grace C. Lee**, COO: former VP, healthcare investment banking at Credit Suisse

- **Dr. Kevan Hosseini,** Penn DMD ’14, Head of Sales; sales/marketing and supply chain management background;

- **Penn Medical Advisors**: Penn Medicine clinicians Dr. Richard Neill (family medicine) and Dr. Julia Tchou (oncology)