

# **PENNVENTION 2016**

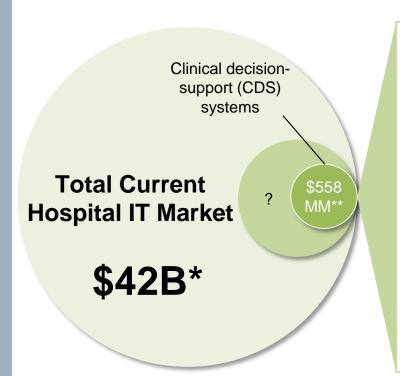
Norman Pai (WG '17)

Josh Karnofsky (SEAS '17)





# Hospital IT and CDS spend is rapidly increasing



# **Target Market: Hospital-based Physicians**

- Primary use: inpatient settings
- CDS value proposition to hospitals:
  - Short-term, increased productivity
  - Enterprise control of clinical guidelines
  - Improved patient safety and risk modeling
  - Obtain reimbursements and avoid penalties based on value-based care metrics
- Hospital-focused sales cycle:
  - Small portion of hospital IT budgets
  - Focus on proof-of-concept through pilots
  - Approval required for premium features

<sup>\*</sup>Expected to double from 3.5-4% operating expenses on IT to ~7% (Deutsche Bank)

<sup>\*\*</sup>Estimated clinical decision-support systems market (Markets & Markets)

# Highly inefficient process for patient data review

The average hospitalist spends 1.5 hours a day doing medical risk and treatment calculations! Medical residents face similar difficulties for inpatient "rounds."

Before







in 5 min

Take paper rounding report, use online/app medical calculator, write results on paper or enter in EHR

Arter inferMD

Scan via iPhone, send, receive suggestions



in 20 s

# Team from top medical and MBA programs









### **Albert Lwin**

3rd Year MD/MPH Candidate

Role: Product Management

Expertise: Clinical Experience, Physician Workflow

### Rachit Vakil

4th Year MD/MPH Candidate

Role: Project Development

Expertise: Technology Integration, Marketing Strategy, Computer Science

### **Norman Pai**

1st Year MBA Candidate

Role: Strategy and Business Development

Majors: Healthcare Management, Statistics Expertise: Data Analytics, Consulting, Tech Startups

# Josh Karnofsky

SEAS Undergraduate (BSCS '17)

Role: Software Engineer

Major: Computer Science Expertise: iOS development



# inferMD synthesizes and analyzes medical data

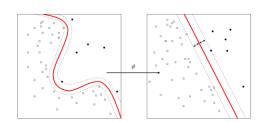
1 Data Capture & Integration

**2** Analytics Engine

3 Actionable Results









# Input Methods:

- Data entry (mobile)
- OCR capture (mobile)
- EHR integration (API)

# Automated Data Analytics:

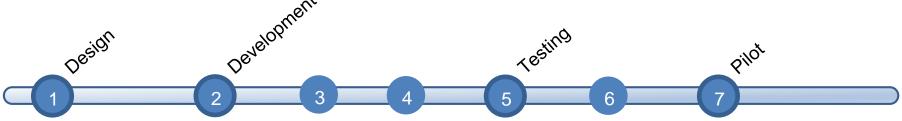
- Efficient lab & data review
- Machine learning backbone
- Predictive analytics



# Physician's Assistant:

- Diagnostic suggestions
- High value order sets
- Specialty customization

# 6-month Timeline and Associated Annual Costs



### Sprint 1 – March

- User Stories
- Lo-Fi
- Storyboard

### Sprint 2 – April

- Local iOS Build
- OCR: Photo-taking & Storing

### Sprint 3 – May

 Live iOS Build Security & Infrastructure (remote DB)

### Sprint 4 – June

- Module library API
- Login: Doximity API

### Sprint 5 – July

**Sprint 6 - August** 

Micro Services

 SDK Integration for Usage Logging & Testing

Cloud Architecture (AWS)

#### **Sprint 6 – August**

- Hospital Partnerships
- Pilot Setup

(physicians)/custom (by hospital)



Category	<u>Item</u>	Annualiz	ed Cost
Office software	Trello Gold (project/prod mgmt)	\$	45
Office software	Google for Business (email/files)		240
Office software	Slack (communication)		384
Code Repository	BitBucket		120
Hosting	Website hosting		96
Hosting	Domain Hosting (renewal)		15
iOS Dev	Apple Dev. Subscription Fee (1)		99
Hosting	Amazon Web Services		250
Incorporation	Delaware C-Corp Filing		1,150
		\$	2.354