reductible

reducing medical bills

Julian Kanaan
Spring 2019

Hospital billing is broken

990k

Hospital visits / yr

29.8%

Underinsured rate

$10,860

Average bill / visit

Billing errors and overcharging
are commonplace due to lack of
standardization and price transparency

Pay-per-use web application

Enter invoice items

JOHN S. SMITH
ER Visit - Methodist Hospital, Houston

Description

ex. blood draw **+**

Medical Code

ex. 3453-554 **+**

Charges

$3564.54 **+**

Add an item

Invoice Analysis

JOHN S. SMITH
ER Visit - Methodist Hospital, Houston
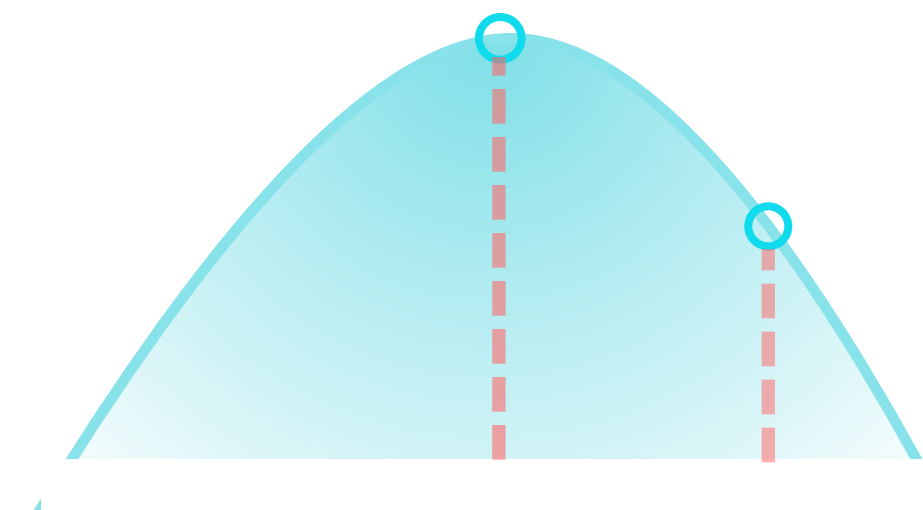
Item 1: Painkillers - 10 ct

Code:
5434-4323 **Good**

Charges:
$3564.54 **Above Market**

Where your bill stands:

$1400 **above average**

Reductible compares your hospital invoice to similar bills in the US.

Customers given actionable, data-backed insights to empower negotiation.

Building a moat

Standardizing the unstandarized

```
[
  {
    "date" : "011119",
    "hospitalInfo" : {
      "id" : "2113221",
      "name" : "Houston Methodist",
      "city" : "houston",
      "state" : "texas"
    },
    "procedureInfo" : {
      "name" : "ALTELPLASE INJECTION 20MG",
      "price" : "1290.00",
      "date" : "011119"
    }
  }
]
```

highly scalable json api

Data collection & refinement

~~"DRG 089 CONCUSSION w/ MCC"~~

↓

~~CONCUSSION WITHOUT MCC~~

↓

CONCUSSION WITH MCC

Competitive landscape

For consumers

ATTORNEYS
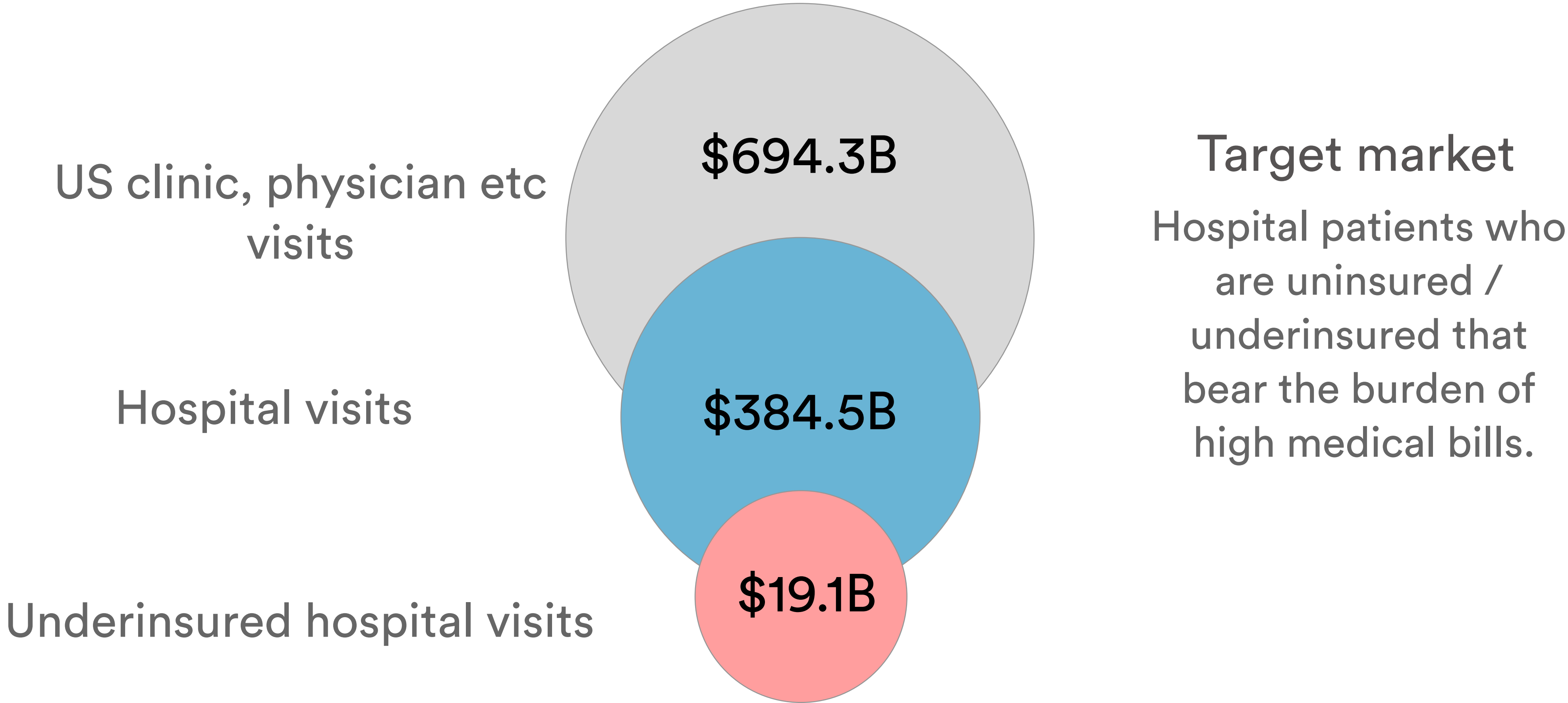
reductible

INSURANCE
FIRMS

Less scalable

More scalable

BILLWISE

p

PATIENTCO

RECONDO

Cedar

For organizations

Sizing the market

US clinic, physician etc visits

$694.3B

Hospital visits

$384.5B

Underinsured hospital visits

$19.1B

Target market
Hospital patients who are uninsured / underinsured that bear the burden of high medical bills.

Marketing strategy

Customer profile

- ✅ Residence outside of metro areas
- ✅ Singles / separated individials
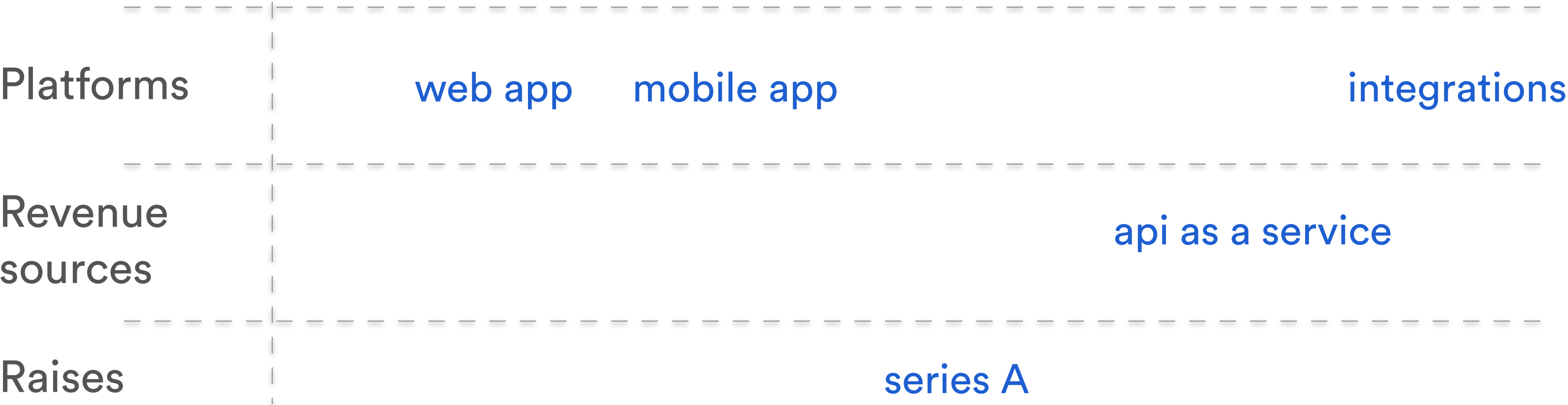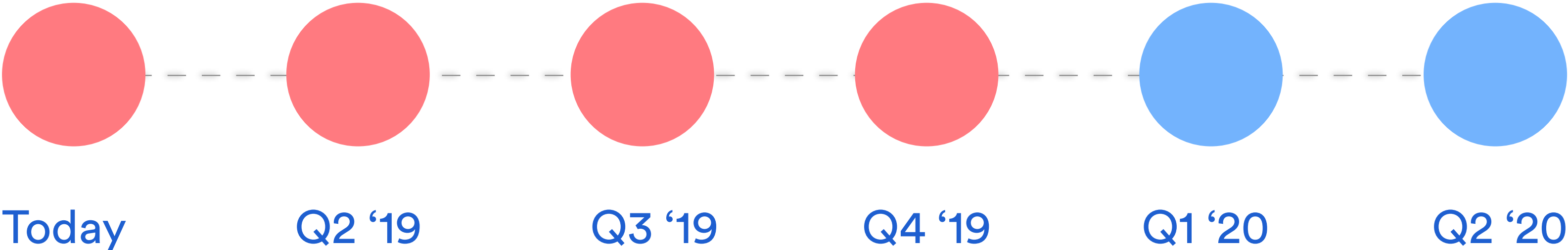- ✅ Not old & not young
- ✅ Lower income

Acquisition
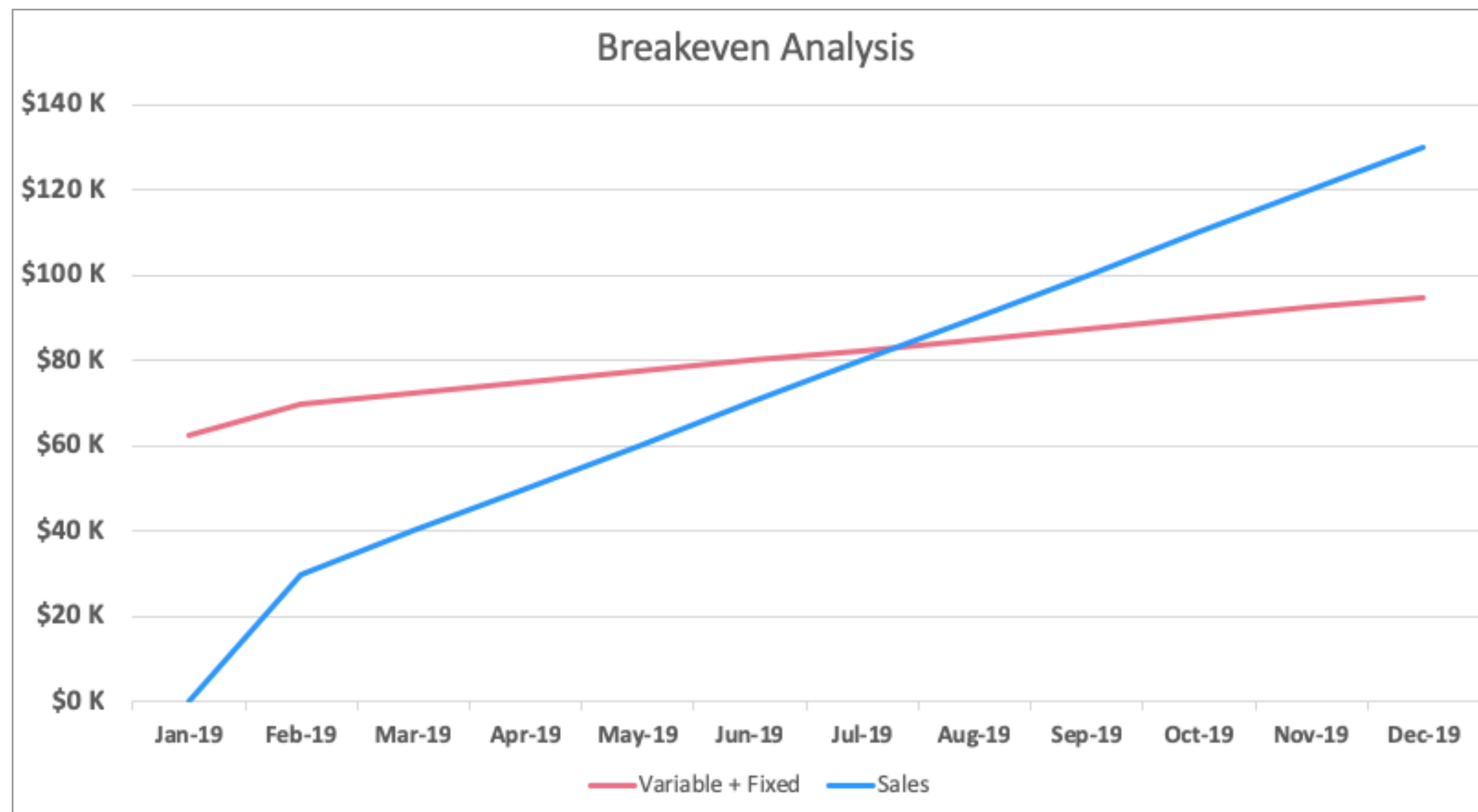
How to reach busy, rural, working-age Americans?

Targeted Facebook / Google advertising

Word-of-mouth

Roadmap ahead

	Today	Q2 '19	Q3 '19	Q4 '19	Q1 '20	Q2 '20

Platforms   web app   mobile app   integrations

Revenue sources   api as a service

Raises   series A

Financial projections

Breakeven Analysis

Lean operations
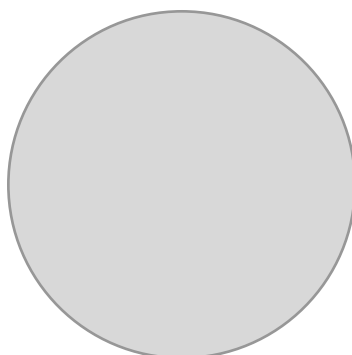
Breakeven by ~ 7 months

API as a service will generate MRR

$50 assumed CAC
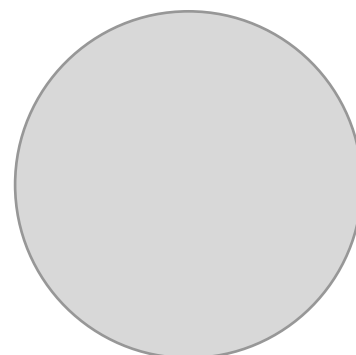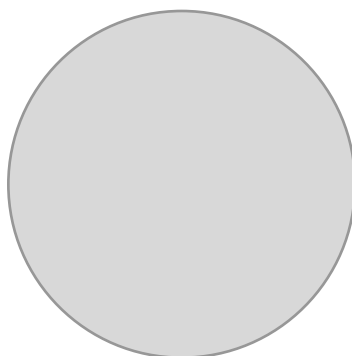$200 price point

Management team

Julian Kanaan
CEO

? CTO

? Compliance

? CFO
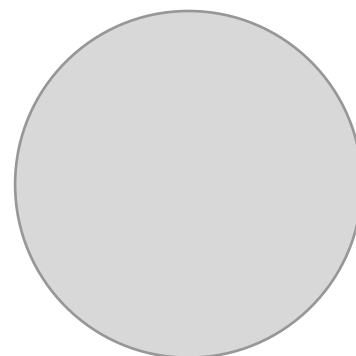
? CMO

Feature set

- ☑ Add / Delete items
- ☑ Onboard users
- ☑ User dashboard
- ☑ Confirm items
- ☑ Query API for results
- ☐ Histogram analysis

Risks

Unable to manage data complexity at scale to provide valuable data to customers

Regulatory environment changes that cause greater standardization of hospital reporting — reducing our competitive advantage

Inability to monetize at proposed price point due to demographic sensitivity to price or greater CAC than anticipated

Thanks.

Julian Kanaan
julian.kanaan@nyu.edu

US Census 2018

https://www.census.gov/content/dam/Census/library/publications/2018/demo/p60-264.pdf

CDC 2017 - Hospital Stays

https://www.cdc.gov/nchs/data/hus/2017/081.pdf

BI - Visits & Total Cost

https://www.businessinsider.com/most-expensive-health-conditions-hospital-costs-2018-2

Market Calculations

77.8% underinsured population of larger 91.2% insured pop = 276M underinsured Americans. 85% * 990k visits per year * $10.86k per bill = 19.1B

Forbes 2018 - Overall cost of medical care

https://www.forbes.com/sites/elliekincaid/2018/12/06/the-amount-americans-spend-on-healthcare-is-still-growing-but-more-and-more-slowly/

Start up costs

$83K total — most in wages ($40k / mo), AWS, hosting, API deployment.

Search Algorithm

Some explanation of the stuff going on in the AJAX query.

Refining search results cyclically

Because invoice descriptions vary so wildy for the same procedure, the input flow asks the user to confirm which procedure most matches their own with a "soft query" - `searchInitial(query, exceptions)` - of only a few possible matches. *See database infrastructure for how confirming affects records.*

If these soft query results don't match, users can retry `searchInitial()` , **using the first batch of results as an array of exceptions** to be passed to the function.

`searchInitial(query, exceptions)` runs again, now returning data that is a closer match. Users can restart the query as many times as needed to refine results.

Filtering out garbage data

Sometimes billing data looks odd (ie. $1.2M charge for a simple concussion or $0 for heart surgery).

Let's filter that out.

`withinOne()` hangs out at the end of `searchResults()` , allowing only results that are **within one standard deviation** of the rest of the population data. Outliers are out, and my sample is a lot cleaner. I should have enough data so population size issues shouldn't be a problem.