Health for the 21st Century
Opportunity

Consumer out of pocket increases as reimbursement rates decrease to create true marketplace dynamics.
Problem

No online resource exists connecting consumers and providers with the information and resources necessary to complete a transaction.

Source: The hidden costs of U.S. health care for consumers: A comprehensive analysis- Deloitte Center for Health Solutions
Opportunity

HSAs/HDHPs Are Significant and Growing Component of US Health Care

- More than 15.5 million people with Health Savings Accounts (HSAs) as of January 1, 2013
- More than $12 billion spent in 2013 through HSAs, with 32.5% of persons under age 65 with private health insurance enrolled in an High Deductible Health Plan (HDHP)

Source: AHIP, CDC, Devenir
What is PokitDok?

PokitDok is a platform for the business of health supporting transparent and seamless healthcare shopping.
What It Is

• Both MarketPlace and White Label:
  • Eligibility
  • Claims Submission
  • Benefits Processing
  • Physician Search (Consumer & P2P)
  • Cash Price and Expected Out of Pocket

• Publish Top 50 Procedure Price Index
• Full arbitrage model
Value For Payors

- **Negotiated Cash Prices**—provide cash quote vs. contracted rate comparison to identify highest value

- **“Shadow” Claims Submission**—enable un-adjudicated claims submissions for cash purchases to ensure member deductibles are accurately tracked

- **Pre-Authorization and Pre-Pay**—relevant provider and treatment search with automated pre-authorization and pre-pay for lowest price
Value For Consumers

• Find the Right Providers—find a provider by name, location, condition & eligibility

• Transparent Cash Quotes—submit a request to one or more providers for the cash price of a treatment or service

• Compare Cash vs. Insurance Price—compare provider cash quotes vs. expected OOP with insurance for highest value

• Eligibility & Benefits—See deductible balance and eligibility before you decide

• Cash and HSA Purchases—buy services using HSA or credit/debit tracked to your deductible via your phone or the web
Value For Providers

- **New, Highly Qualified Patients**—attract new patients who are searching for that match your profile
- **Enhanced Cash Flow**—accept payments up front on your, enable subscriptions, remove payment risk
- **Cut Costs**—reduce costs through automation of payments, eligibility checks & claims filing
- **Deliver Transparency**—increase transparency and trust with pricing for qualified treatments
- **Free Profile or Website**—including videos, social network integration, publications and SEO optimization
Value For Employers

• Secure Highest Value Care for CDHPs and HSA Accounts—employees can search and compare highest value price and quality across network

• Enhance ROI on Existing Benefits—integrate PokitDok with existing programs including onsite clinics, wellness programs, and incentives

• Employee Engagement—engage employees with messaging and incentives at most impactful decision point

• Support New, Value-based Care Delivery Models Without Changing Plan Design—integrate Direct Pay, Retail Health and other cash-based services
Price transparency

- **Real prices**—prices are sourced directly from providers
- **Up-to-date**—prices are current, not historical
- **Discounts**—discounts of 15-40% for payment with Cash/Credit/HSA; often more for prepay
- **Cash vs. insurance**—compare expected OOP & deductible status vs. cash for best value
Price Transparent Quotes and Estimates

Allergy & Immunology in San Mateo, CA

Payment Options
- Cash / Credit / HSA
- Insurance

<table>
<thead>
<tr>
<th>Insurance Company</th>
<th>Member ID</th>
<th>Member Name</th>
<th>Birthdate</th>
</tr>
</thead>
<tbody>
<tr>
<td>blueshield california</td>
<td>W191760274</td>
<td>Lisa Maki</td>
<td>6/6/1962</td>
</tr>
</tbody>
</table>

Your Budget
- $150
- Negotiable
- Remaining in your $3,000 deductible: $2,983.57

Confidential
Costs and price transparency

Comprehensive Health Services
- Castlight
- Change Healthcare
- Healthcare Blue Book

Niche Health Services
- Eluminate Health
- HealthSparq
- Clear Health Costs
- Medlio
- GoodRx
- Wellero
- HelloMD
- Health in Reach
- Brighter

Historical Claims Analysis vs. Real-time Prices
Ratings Considerations

• An effective ratings system should highlight the relative strengths of physicians, on a fixed set of categories
• A graphical indicator of Category Strengths (not a star or numeric rating system) allows each physician to monitor their performance on what matters most to THEM as practitioners.
• Rating Categories:
  – Peer Reputation (MDs define what matters here)
  – Competence
    • Board Certifications
    • Special Training
    • Patient Outcomes Data
    • Malpractice
  – Alternative Payment Options
  – Social (replaces Instructional/Conversational)
  – Availability (scheduling, telemed, email, house calls, etc)
Consumer Provider Search

- Consumers should be able to search for providers, taking into account some or all of the following:
  - Medical Condition
  - Provider Specialty / Service
  - Location
  - Ratings
  - Treatment Price
  - Method(s) of Payment Accepted
  - Success of recovery rates
Main Relationships

- \( P_i \) refers to Practitioner
- \( C \) refers to Consumer
- \( S \) refers to Service

Diagram:
- \( P_i \)→\( P_j \) via referral
- \( P_k \)→\( C_n \) via treatment
- \( C_m \)→\( S_x \) via purchase
- \( C_{y,P} \)→\( P \) via rate
- \( P \)→\( C_m \)
Example Interactions

Cn

P

P

`treat`

`treat`

`rate`

`refer`
Quote Requests

Search Criteria: Condition, Provider Specialty & Services, Location, Ratings, Price, Methods of Payment Accepted
Some Technical Stuff

• Languages:
  – Javascript (angular.js, node.js etc)
  – Python
  – Cypher
  – Gremlin
  – JAVA
  – Objective C
  – Whatever it takes
Some Technical Stuff

• We are a polygot persistent company:
  – Elastic Search
    • Python wrapper over Lucene TD-IDF
  – Mongo Db
  – Reddis
  – Neo4J
  – Memcache
  – Storm, Hadoop, Spark etc...
Price Equilibrium

classification and regression algorithms to find the maps, $x_n$:

$$P_{(n)}X_{(n)} = \text{SCORE}_{(n)}:$$
#sharethehealth