

Message

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**From:** Crawford, Kermit R. [/O=WALGREENS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=74B59BB4-73AA-4E2E-911E-03E2154329A6]  
**Sent:** 3/29/2010 6:19:40 PM  
**To:** Holcer, Mary Beth [marybeth.holcer@walgreens.com]  
**Subject:** Fw: Follow up to our meeting today

pp in color  
thanks

Kermit R. Crawford  
Executive Vice President, Pharmacy  
Walgreen Co.  
200 Wilmot Road, MS #2264

P:  
F:

----- Forwarded by Kermit Crawford/OPS/Walgreens on 03/29/2010 01:19 PM -----

**Wade Miquelon/Corp/Walgreens**

03/23/2010 12:59 PM

To "Greg Wasson" <Greg.Wasson@walgreens.com>, "Kermit Crawford" <Kermit.Crawford@walgreens.com>

cc

Subject Fw: Follow up to our meeting today

Greg... Worth a peek but please don't forward due to confidential agreement. Many companies technologies and accuracy now surpass that of labs but the key is who gets FDA approval first... And they appear in the lead. Notice the correlation data of what is the toughest off all tests... 99 percent. Robotics, speed of completion, minimized handling, and test frequency potential will all make current model obsolete. Kermit.. I'll share more with you when I see you, but we may have found the lead pony in POC diagnostics.

I still remain passionate about really painting a very futuristic pharmacy picture. One day folks will come into WAGs and see a Dr on Healthpresence type technology. The Dr will order a POC test.... Which we will do.... And then write a prescription which we will fill. We will be the gateway into primary care and the gateway out. Then we really will be the most important player in US healthcare.

Wade

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**From:** "Elizabeth Holmes" [eholmes@theranos.com]  
**Sent:** 03/23/2010 01:17 AM MST  
**To:** Wade Miquelon

**Cc:** Jay Rosan; "Sunny Balwani" <sbalwani@theranos.com>

**Subject:** Follow up to our meeting today

Wade,

It was great to meet you.

As promised, please find the presentation we presented today. We did not PDF it so that you can pull content as needed, but as discussed this material is confidential.

We are very much looking forward to our next conversation/meeting.

Do let us know if there is any additional material we can provide you for your upcoming meetings.

With my best regards,

Elizabeth.

Elizabeth Holmes

President and CEO

Theranos, Inc.

Tel: 650.470.6111

Fax: 650.838.9804

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## **Theranos Systems at Walgreens**

### **Executive Management Briefing March, 2010**

This presentation and its contents are Theranos proprietary and confidential.

# Contents

Background

The Market Opportunity

Theranos Systems at Walgreens



## Theranos, Inc.

Theranos is a Silicon Valley-based healthcare technology company founded in 2003.

- Theranos' proprietary, patented technology runs comprehensive blood tests from a finger-stick in real-time at the point of care, outside of traditional lab settings
- Theranos provides fully customized solutions that impact a diverse range of stakeholders in health care by providing actionable information in real-time.
- Our current and past clients include 10 of the top 15 major pharmaceutical companies, midsized bio-pharmas, prominent research institutions and U.S. and foreign government health and military organizations.
- Theranos is launching Theranos Systems to consumers in 2010.



## About Theranos

Founder and CEO Elizabeth Holmes left Stanford University to start Theranos around her patents for next-generation healthcare systems. She has built the company from inception to rapid commercial growth today.

Vice Chairman & President of Products Sunny Balwani joined Theranos from the graduate studies program in Computer Science at Stanford University after successfully selling his previous company for over \$400M.

Theranos' investors and board members include, amongst others:

- Donald L. Lucas, the first venture capitalist in Silicon Valley, and a legend behind many of today's Fortune 500 companies
- Larry Ellison, Founder and CEO of Oracle Corporation
- Bob Shapiro, former CEO and Chairman of Monsanto and Pharmacia Corporations (now Pfizer); former director of NYSE, Citibank, and other major corporations

## Overview: Theranos Systems

### Theranos Systems



Devices

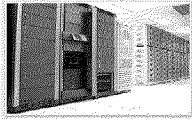


Cartridges

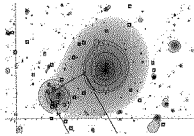


Mobile Applications –  
e.g. the *Health Assistant*

### Customized, client-specific decision support software



Database  
Infrastructure



Pattern Recognition  
Algorithms



Applications –  
e.g. Compliance, Billing



## Theranos Systems Devices



Theranos Systems comprise proprietary tests for far earlier detection of key diseases than previously possible, enabling real-time intervention and treatment at the point of care and in remote locations.





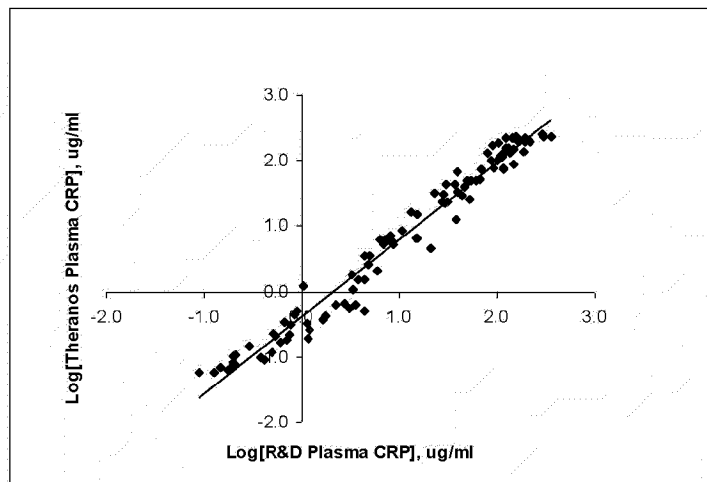
## Validation of Theranos Systems

Theranos Systems have been comprehensively validated over the course of the last seven years by ten of the fifteen largest pharmaceutical companies.

After running clinical trials with Theranos Systems instead of the central laboratory, GlaxoSmithKline's Lab Director concluded that **"Theranos Systems eliminate the need for a lab."**

Theranos Systems are GLP, GCP, and 21-CFR compliant and are validated under FDA/ICH guidelines. The systems are classified as non-significant risk devices. Regulatory filings are ongoing in preparation for launch to consumers.

## CRP Test Clinical Correlation to Reference Methods



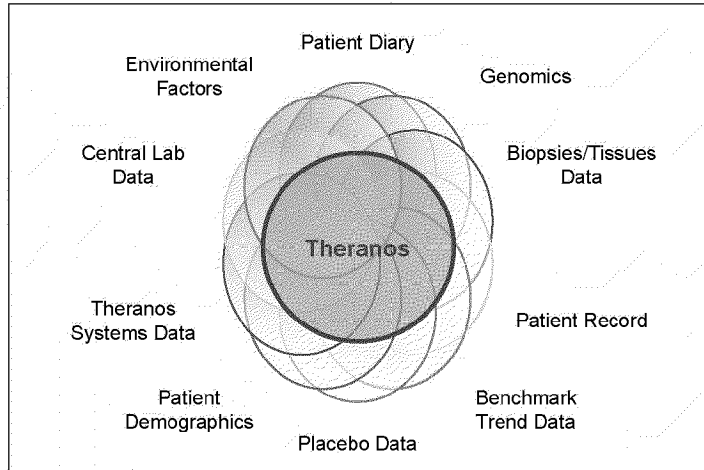
$$y = 1.179x - 0.3746, r = 0.99, n = 104$$

**Single Theranos assay detects both high and low sensitivity CRP,  
covering a concentration range of over 10,000-fold**

## Theranos:

### Customized Data Integration & Standardization

- Standards-based import tools on web portal allows for automatic importation and standardization of data from any and all clinical databases.
- All data is automatically integrated with Theranos Systems data, centralized, and passed through predictive models.



**Theranos Data Infrastructure**

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## Theranos Systems at Walgreens

Theranos and Walgreens have the opportunity to capture a significant share of a market that impacts more than 80% of clinical decisions today.

- General lab testing was a \$52 billion market in 2008
- Projected to grow to \$62B in 2013
- On average, every American runs blood tests >3 times a year.
- In 2006 alone, Quest Diagnostics, which only controls 14% of the general lab testing market, processed more than 151 million test requisitions.
- Healthcare reform, increasing healthcare costs, and the changing market dynamics make this industry ripe for innovation

## Theranos Systems at Walgreens: The Market Opportunity

- The routine test segment is the largest with approximately 67% of the US market in 2009.
  - Sales for routine tests were estimated at \$35.3 billion in 2009.
- The specialty test segment generated revenues equal to about 33% of the total clinical laboratory market or \$17.4 billion in sales.
  - Specialty tests include diagnosis of cancer, heart disease, diabetes, genetic testing, prenatal testing etc.
  - Currently these tests are only run when its too late to reverse disease progression through intervention.
  - This segment at retail point-of-care with new actionable tests will grow rapidly and have a deeper impact on outcomes and cost of healthcare.

## Theranos Systems at Walgreens: The Market Opportunity

Current test prices driven by:

- 70% operational overhead from collecting, shipping and handling samples
  - Cost structure reflects the old paradigm of collecting enough samples to distribute the cost
  - Test panels don't reflect the ideal information needed by physicians for actionable decision making, but rather originated because of the cost structures of labs
  
- Real estate costs

## Theranos Systems Products

### 1. General Chemistry Tests

### 2. Wellness Tests

- Measure obesity and diabetes onset and disease regression
- Link to *Health Assistant* application for automated behavior modification & weight loss assistance based on individual's blood test results and changes in blood tests, diet, and lifestyle over time

### 3. Diagnostic & Predictive Women's and Men's Health Tests

- Include the following proprietary tests, amongst others:

#### Chronic Disease

- Heart disease progression & risk of heart attacks
- Breast & ovarian cancer early detection and onset
- Prostate & colorectal cancer early detection onset

#### Infectious Disease

- Influenza (H1N1 2009 swine, non-swine flu, H3N2 (global flu), H5N1)
- Viral versus bacterial infection
- HIV & other STDs

#### Fertility & Pregnancy

- Better characterization of optimal time for conception, efficacy of fertility treatments, and how best to optimize them (e.g. during IVF or hormone therapy)
- Earlier & more accurate detection of pregnancy than currently possible
- Early detection of preeclampsia



## Theranos General Chemistry Tests

- Real-time, finger-stick based tests
- At less than 70% of the cost of current lab tests
- Far more accessible for the people who need them
- Enabling more frequent sampling to catch diseases earlier
- Powering individualized, real-time links to Walgreens pharmacists through the *Walgreens Health Assistant* on mobile phones and online
- Creating a new, highly profitable business for Walgreens pharmacies

## General Chemistry Tests Include the Most Common Blood Tests and Standard General Chemistry Panels

<p><b>CBC – Complete Blood Count</b></p>	<ul style="list-style-type: none"> <li>▪ White blood cell count</li> <li>▪ Red blood cell count</li> <li>▪ Hemoglobin</li> <li>▪ Hematocrit</li> <li>▪ Mean corpuscular volume</li> <li>▪ Mean corpuscular hemoglobin</li> <li>▪ Mean corpuscular hemoglobin concentration</li> <li>▪ Platelet count</li> <li>▪ Mean platelet volume</li> </ul>	<p><b>Basic Metabolic Panel</b></p>	<ul style="list-style-type: none"> <li>▪ Sodium</li> <li>▪ Potassium</li> <li>▪ Calcium</li> <li>▪ Chloride</li> <li>▪ CO<sub>2</sub></li> <li>▪ Glucose</li> <li>▪ BUN</li> <li>▪ Cr</li> </ul>	<p><b>Liver Panel</b></p>	<ul style="list-style-type: none"> <li>▪ ALT</li> <li>▪ Alkaline Phosphatase</li> <li>▪ AST</li> <li>▪ Ferritin</li> <li>▪ GGT</li> <li>▪ Iron</li> <li>▪ Lactate Dehydrogenase</li> <li>▪ Microalbumin</li> <li>▪ Total Protein</li> <li>▪ Albumin</li> <li>▪ Globulin</li> <li>▪ Bilirubin Direct</li> <li>▪ Bilirubin Total</li> </ul>
<p><b>Lipid Profile + Glucose Panel</b></p>	<ul style="list-style-type: none"> <li>▪ Cholesterol</li> <li>▪ HDL</li> <li>▪ LDL</li> <li>▪ LDL/HDL Ratio</li> <li>▪ Triglycerides</li> <li>▪ VLDL</li> </ul>	<p><b>Complete Metabolic Panel</b></p>	<ul style="list-style-type: none"> <li>▪ HGB A1c</li> <li>▪ Glucose</li> <li>▪ Calcium</li> <li>▪ Albumin</li> <li>▪ Total Protein</li> <li>▪ Sodium</li> <li>▪ Potassium</li> <li>▪ CO<sub>2</sub></li> <li>▪ Chloride</li> <li>▪ BUN</li> <li>▪ Creatinine</li> <li>▪ ALP</li> <li>▪ ALT</li> <li>▪ AST</li> <li>▪ Bilirubin</li> <li>▪ Magnesium</li> </ul>	<p><b>Renal Panel</b></p>	<ul style="list-style-type: none"> <li>▪ Albumin</li> <li>▪ BUN</li> <li>▪ Calcium</li> <li>▪ CO<sub>2</sub></li> <li>▪ Chloride</li> <li>▪ Glucose</li> <li>▪ Phosphorous</li> <li>▪ Potassium</li> <li>▪ Sodium</li> <li>▪ Creatinine</li> <li>▪ eGFR</li> </ul>
		<p><b>Thyroid Panel</b></p>	<ul style="list-style-type: none"> <li>▪ TSH</li> <li>▪ T-3</li> <li>▪ T-4</li> </ul>	<p><b>Cardiovascular Panel</b></p>	<ul style="list-style-type: none"> <li>▪ Creatinine Kinase</li> <li>▪ Troponin-I</li> <li>▪ Troponin-T</li> <li>▪ CRP- High-Sensitivity C-Reactive Protein</li> <li>▪ Homocysteine</li> </ul>

## Theranos General Chemistry Test Pricing

Theranos offers two sets of general chemistry test panels with different pricing, as detailed in the following two slides

1. The first set replicates individual conventional tests at lower prices
2. The second set combines the most commonly ordered tests into integrated test panels at prices that are unprecedented in the industry
  - These prices position Walgreens to rapidly capture significant market share

Pricing is highly volume dependent; the following two slides assume moderate pricing (15k-20k tests/day)

# 1. Theranos Pricing for Individual Tests

<u>Test Panel</u>	<u>Approximate price at Quest Diagnostics</u>	<u>Theranos' price to Walgreens</u>	<u>Theranos' suggested retail price at Walgreens</u>	<u>Retail price % savings over central labs</u>
<u>CBC – Complete Blood Count</u>	\$46	\$22	\$27	42%
<u>Lipid Profile + Glucose Panel</u>	\$81	\$32	\$40	50%
<u>Basic Metabolic Panel</u>	\$36	\$17	\$21	42%
<u>Complete Metabolic Panel</u>	\$60	\$28	\$35	42%
<u>Liver Panel</u>	\$82	\$37	\$45	45%
<u>Renal Panel</u>	\$51	\$23	\$30	42%
<u>Cardiovascular Panel</u>	\$280	\$110	\$150	47%
<u>Thyroid Panel</u>	\$329	\$130	\$180	45%



## 2. Theranos Pricing for Integrated Test Panels

<u>Test Panel</u>	<u>Approximate price if done at central labs</u>	<u>Theranos' price to Walgreens</u>	<u>Theranos' suggested retail price at Walgreens</u>	<u>Retail price % savings over central labs</u>
<u>Theranos Core Panel</u> (Includes the most common tests) CBC Panel Lipid Panel Basic Metabolic Panel	\$136+	\$30	\$40	>70%
<u>Theranos Wellness Panel</u> CBC Panel Lipid Panel Basic Metabolic Panel Thyroid Panel Basic Liver Panel Basic Renal Panel Iron, Calcium, Phosphorus	\$520+	\$50	\$65	~90%
<u>Theranos Premium Panel</u> CBC Panel Lipid Profile Panel Complete Metabolic Panel Complete Thyroid Panel Complete Liver Panel Complete Renal Panel Cardiovascular Panel	\$1000+	\$120	~\$150	~90%

## Profitability and Healthcare Cost Savings From Theranos General Chemistry Tests

**Assumptions**

- Price of Theranos Core Panel \$27
- Approx. retail price at Walgreens \$40

Walgreens's market share of general chemistry tests	5%	10%
Approx. Total number of tests per year	50,000,000	100,000,000
<b>Approx. Annual Walgreens revenue</b>	<b>\$2,000,000,000+</b>	<b>\$4,000,000,000+</b>
<b>Approx. Annual Walgreens gross margin</b>	<b>\$650,000,000</b>	<b>\$1,300,000,000</b>
Annual healthcare savings from direct out-of-pocket testing costs off of \$136 retail price of current general chemistry tests (does not include savings from avoidance of incorrect/unnecessary treatment and/or reduced hospitalizations and clinic visits).	\$4,800,000,000+	\$9,600,000,000+

## Theranos Systems at Walgreens: Market Share Strategy

### The Medicaid/Medicare Opportunity

- In cutting the cost of testing 70-90%, Theranos is setting a new reimbursement threshold
- New Theranos Panel CPT codes will make it difficult for high cost tests to maintain market share, and will contribute to increasing market ownership of Theranos Systems at Walgreens

## Theranos Diagnostic & Predictive Tests

- Theranos Wellness, Diagnostic, and Predictive Tests are the foundation of a new market and industry
- These tests predict the onset of disease far before clinical symptoms and more accurately than conventional testing methods
- There are currently no comparable screening tools on the market



## Theranos Diagnostic & Predictive Tests Examples

### Breast cancer test

- 70M women over the age of 40 in US in 2010
- Assuming an average 2 tests/woman per year
- 140m+ tests/year
- Assuming \$100 retail price and \$15 gross margin
- Assuming Walgreens captures a 20% market share with early mover advantage
- **\$2.8B+ potential revenue and \$420M+ profit margin for Walgreens from just the breast cancer test alone**

### Prostate cancer test

- 65M men over the age of 40 in US in 2010
- Assuming an average 2 tests/man per year
- 130m+ tests/year
- Assuming \$100 retail price and \$15 gross margin
- Assuming Walgreens captures a 20% market share with early mover advantage
- **\$2.6B+ potential revenue and \$400M+ profit margin for Walgreens from just the prostate cancer test alone**

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## Real-Time Finger-Stick-Based Tests for Launch at Walgreens in 2010

1. **General Chemistry Panel(s) and standard blood tests**
  - Initial price points for all general chemistries and standard blood test panels are targeted at less than 70% of the fully loaded cost of running the same tests in a central lab.
  - Reduce hospital visits and test result delays.
  - Link biochemical data to food purchases to delay the onset and progression of diet related diseases.
2. **Influenza**
  - Only rapid test to distinguish between H1N1 09 (swine flu) and other influenza types (H1N1 08 (and non-swine), H3N2 (global), H5N1) at significantly less than half the cost of centralized lab tests.
  - Comprehensive influenza diagnosis enables optimal administration of antivirals and/or recommendation for antibiotics as a more effective treatment option.
3. **Fertility**
  - Fertility tests for women undergoing fertility treatments and/or having difficulty conceiving (progesterone, estradiol, LH, FSH, beta-hCG).
  - Earlier detection of pregnancy than current urine-based tests.



## Web & Mobile Phone *Health Assistant* Application

From the National Cancer Institute website, "Serious diseases that are linked to what we eat kill an estimated three out of four Americans each year."

- Cancers, diabetes, cardiovascular/heart disease, hypertension/high blood pressure, stroke and osteoporosis
- "Smart" individualized recommendations based on each user's biochemical blood profiles facilitate behavior modification and healthy food choices.
- World-class content delivered through 24x7 individualized automated messaging.
- Practical tools, such as partnership networks, further assist in modifying behavior.
  - Coupons
  - Community events
  - Food suggestions and automated ordering
  - Real-time Q&A with pharmacists or Theranos physicians
  - ...
- Social network around process and successes is powerful new marketing channel.

## Individualized *Health Assistant* application



I see you're flying to Seattle. Carry a snack so you can stay with your diet on the plane.

Don't forget workout clothes when you travel to Boston.

Two blocks from you there's a restaurant with soup and salad. [Press here](#) for a coupon for today's healthy lunch

Automated health support

## Real-Time Finger-Stick-Based Tests for Launch at Walgreens in 2011

### 3. Women's Health

- Early detection of pregnancy complications and/or the risk of complications such that interventions can be made in time to improve outcomes.
- Finger-stick based tests for the earliest detection of breast and ovarian cancer. This is a preventative screening test that will be performed multiple times a year.
- CHF tests to predict risk of hospitalization due to cardiovascular event.

### 4. Men's Health

- Finger-stick based tests for the earliest detection of prostate and colorectal cancer. This is a preventative screening test that will be performed multiple times a year.
- Fertility tests for men.
- CHF tests to predict risk of hospitalization due to cardiovascular event.

## Launch of Theranos Systems at Walgreens

Theranos would like to cement a partnership with Walgreens by end of April, 2010 to launch the general chemistry, influenza, and fertility tests in Q4 2010.

- Theranos Systems and the *Walgreens Health Assistant* will be customized for Walgreens in anticipation of deployment.
- Customization of data/information workflow, for pharmacy layout, and for key customer demographics will continue in parallel with pilot in preparation for store-wide launch.
- Launch of initial test panels will yield immediate impact for Walgreens stores and lay the foundation for broad deployment and introduction of new tests and value-added services over time.



## Making Quality Health Care More Affordable and Accessible

Theranos Systems at Walgreens allow for:

- Significant reductions in the cost of the care by
  - Reducing blood testing costs
  - Reducing the number of visits to hospitals
  - Enabling earlier, more accurate, more frequent and preventative screening
  - Improved outcomes through individualized treatment and lifestyle improvement tools
- A new national health care infrastructure through cutting edge technology systems
  - Innovations in biotechnology, information technology, and machine learning
  - Quantitative measures of disease progression, efficacy and safety of interventions, compliance, and the earliest onset of serious ailments and complications
- Significant environmental impact through reduction in CO2 emissions associated with central laboratory infrastructure and shipping reductions
  - Quest Diagnostics' planes, vans, and trucks travel the distance of earth to the moon and back every day



## Building the Future of Retail Health Care

- Trusted health solutions will build customer loyalty and result in Walgreens becoming the center for continuity of care for store customers and members.
- Fully integrated, next-generation solution enables intelligent, individualized medicine, in contrast to currently available consumer health portals.
- Health information and nutritional recommendations provide insight into improvements in lifestyle, diet, and other resources available through Walgreens.
- Customized *Walgreens Health Assistant* web and mobile phone software will provide “smart” individualized support, links to prescriptions, and health resources through mobile & online portals for a total customer lifestyle/health solution.

## Building the Future of Retail Health Care

- Make Walgreens the hub for early detection and treatment of critical ailments to prevent the complications that lead to extraordinary healthcare costs and, ultimately, fatalities.
- Bring cutting edge, individualized, and preventative healthcare into pharmacies without the need for complex infrastructure.
- Enable fast, efficient and scalable health services at the point of care.
- Walgreens will minimize the impact of critical diseases by enabling earlier and accessible detection and intervention.
- Drive new, predictable, and repeat customer traffic into stores.

## Appendix

Theranos Confidential

## Theranos Systems at Walgreens: The Drivers for Market Growth

### Market Trends:

- Overall population growth
- Increase in population over age 65
  - As stated in a recent Wall Street Journal report, “There will be 10,000 new Medicare recipients per day every day for 20 years beginning 2011.”
- Growth in life expectancy
  - Advances in technology
  - Preventive and risk factor testing
- Personalized medicine
- Growing number of diseases
- Regulatory environment

## Theranos Wellness Tests

- Unlike conventional “personalized medicine” tests, Theranos tests not only account for an individual’s genetic make-up, but also the expression of those genes over time
- Theranos tests take into account the influence of all environmental data – diet, exercise, sleep, psyche, and many other factors – on the onset, progression, and regression of disease
- Theranos’ proteomic tests characterize the onset, progression, and regression of obesity and diabetes
- Blood test data links to automated feedback to help change behavior and delay the progression of disease
- These tests can be offered on a routine basis at Walgreens stores to measure progress and the success of different behavior changes

## Theranos Systems at Walgreens: The Health Insurance Trends

	<b>Total Population</b>	<b>Total with Insurance Coverage<sup>1</sup></b>	<b>Medicare Coverage</b>	<b>Medicaid Coverage</b>	<b>Private Health Insurance</b>	<b>Uninsured</b>
Under 65	262.3	217.4	7.1	36.3	180.8	45.0
65 and Over	36.8	36.1	34.3	3.3	21.2	0.7
Total	299.1	253.5	41.4	39.6	202.0	45.7

Insurance payors in the US (population in millions).

Source: U.S. Census Bureau; Centers for Medicare and Medicaid.

## Theranos Systems at Walgreens: The Market Opportunity

### Analysis of current market leaders

	Quest Diagnostics	Lab Corp
Revenue	\$7.46B	\$4.7B
% from routine Clinical Diagnostics	90%+	68%
# of locations	2,100	1,650
# of Labs	30 – 150 quick response labs	36

	2006-2013 CAGR	# of Labs
Hospital-based laboratories	2.3%	8,665
Physician-office laboratories	1.5%	112,000
Independent clinical laboratories	8.3%	5,135 (80% is quest and labcorp)