



Summary of Hopkins/Walgreens/Theranos Meeting

April 27th, 2010

Johns Hopkins Medicine Participants:

Dr. Frederick Brancati Professor of Medicine & Epidemiology, Director, Division of General Internal Medicine; Director, Diabetes Prevention & Control Core
Dr. Thomas Kicker Professor of Medicine; Director of Hematology Laboratory
Dr. William Clark Associate Professor of Pathology; Director of Clinical Pathology Laboratory
Mark Shaver Head of Strategic Alliances, Johns Hopkins Medicine International
Bassam Sayad Managing Director, Johns Hopkins Medicine International, Formerly Senior Staff, JH Clinical Pathology

Walgreens Participants:

Dr. Jay Rosan Vice President, Health Innovation, Walgreens

Theranos Participants:

Elizabeth Holmes President & CEO, Theranos
Sunny Balwani Vice Chairman, Theranos

Innosight Participants:

Erika Johnson Manager, Innosight

Meeting Objectives:

- Hopkins team was asked to comment on validity and usefulness of Theranos product, specifically related to the science that supports the technology and the application of the technology in a variety of settings including hospital, clinic, laboratory and potentially within Walgreens as an add on to the clinical programs and retail pharmacy business that currently exists.

Methodology:

- The Hopkins Team reviewed proprietary data on test performance for routine tests (clinical pathology, hematology) and special tests (e.g. tumor markers)
- Theranos presented additional data on technology, test performance, and business vision—and demonstrated technology on site.
- Dr. Rosan commented on Walgreens preliminary strategy to explore expanding into the laboratory space, expanding its health services offerings to include lab and pathology testing within Walgreens retail space.

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Key Findings: Based on this evaluation, the consensus of the Hopkins team was as follows:

- The technology is novel and sound. It can accurately run a wide range of routine and special assays.
- The technology is simple enough to be used by non-specialists in the field.
- Special strengths of the technology include:
 - Accuracy
 - Miniaturization (small footprint, portable, usable in the field)
 - Flexibility (can be tailored to needs of variety of clinical venues)
 - Connectivity (connection to centralized control via wireless/web enhances QC and population-based analysis)
 - Adaptability for Research (can be tailored for repeated measures of new targets, e.g. drugs)
 - Cost per study was stated to be significantly lower than currently available on the commercial market
- The Hopkins team thought that the technology would be useful in the retail clinic setting, with the proviso that the throughput for an individual sample (30-45 min) would require multiple units per site and impose an upper limit for group throughput.
- The Hopkins team also thought it would be attractive to consider JHU-Theranos research collaboration around individualized medicine, especially around drug kinetics and response.
- One observation: "The Theranos Technology is not really 'point of care' technology—it's really a traditional lab assay approach, with the attendant accuracy and validity---highly miniaturized. Essentially a 'mini-lab'."
- No major weaknesses were identified.

Additional Information:

- Dr. Clark indicated that over the past two years he has had numerous conversations with Theranos about utilizing their technology at Johns Hopkins for research activities. The conversations continue to be favorable and both parties will continue to explore opportunities for collaboration.

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